Notice of Project Change
EEA No.14137

# Southwest Service Area Redevelopment Program at Boston-Logan International Airport

East Boston, Massachusetts

SUBMITTED TO
Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act Office

PREPARED BY
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IN ASSOCIATION WITH
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massport

PROPONENT
**Massachusetts Port Authority**
Logan Office Center, Suite 200S
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IN COOPERATION WITH
Federal Aviation Administration

OCTOBER 2009

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October 15, 2009

Secretary Ian A. Bowles
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

and

Alicia McDevitt, MEPA Director
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Re: Notice of Project Change
Southwest Service Area Redevelopment Program at Boston-Logan International Airport East
Boston, Massachusetts
EEA No. 14137

Dear Secretary Bowles and Director McDevitt:

The Massachusetts Port Authority ("Massport") is pleased to submit the enclosed Notice of Project Change ("NPC") for the redevelopment of the Southwest Service Area ("SWSA") at Boston-Logan International Airport ("Logan Airport") [EEA No. 14137]. The SWSA program has been re-evaluated by Massport and revised in light of long term economic trends affecting airport operations and existing economic constraints on airport capital programs. As a result, the overall size and scale of the SWSA program has been reduced by almost half. The commercial parking consolidation component within the proposed garage structure has been eliminated, but the proposal to consolidate existing rental car operations into a single facility (the "ConRAC") has been maintained. The resulting smaller program will serve the project's basic purpose and need by improving customer service at the airport while making more efficient use of existing ground transportation infrastructure.

***Planning History***

For more than 25 years, the SWSA has supported a variety of essential ground transportation services and facilities, including the taxi pool, seven separate rental car businesses, the bus/limousine pool, and a flight kitchen. Prior to this in the early 1970s there was aviation activity in portions of the SWSA. As described in annual Environmental Status and Planning Reports ("ESPRs") and annual Environmental Data Reports ("EDRs") dating back to 1993[1], Massport has been engaged in ongoing feasibility studies to replace and upgrade existing car rental and ground transportation facilities in the SWSA. In early 2006, Massport initiated a feasibility study for a consolidated rental car facility in the SWSA. The study examined program requirements, site layout and access alternatives, financing options, order-of-magnitude costs, and environmental benefits. An Environmental Notification Form for the project was filed on November 14, 2007 with the Executive Office of Energy and Environmental Affairs ("EEA"). On June 27, 2008, a Draft Environmental Impact Report/Environmental Assessment ("Draft EIR/EA") was submitted to EEA.

[1] ESPR and EDRs were formerly called GEIRs in 1993.

***Revised Program Summary***

The main purpose of the revised SWSA Redevelopment Program continues to be consolidation of on-airport rental car operations and facilities into one integrated facility. The project will:

- Better serve the traveling public and rental car companies;
- Reduce ground transportation and air quality impacts associated with the operation of the rental car facility shuttle buses on-airport and in the surrounding neighborhoods; and
- Reduce associated off-airport impacts (reduced vehicle-miles-traveled).

The revised SWSA Redevelopment Program consists of the replacement of and upgrade to existing ground transportation uses within the SWSA to be more efficient and customer-friendly through the development of a Leadership in Energy and Environmental Design (LEED®) certified, four-level, approximately 1.3 million square foot garage structure (the "Garage Structure").

The following are the key components of the revised SWSA Redevelopment Program:

- A consolidated rental car garage structure with a Customer Service Center ("CSC");
- Quick Turn Around ("QTA") maintenance and service facilities;
- A consolidated rental car shuttle bus system combined with existing Massport bus routes that serve MBTA Airport Station and the airport terminals (the "Unified Bus System");
- A retained, relocated and reconfigured Taxi Pool and Bus and Limousine Pool;
- Demolition of the existing Flight Kitchen, and consolidation of the existing Flight Kitchen operation into the existing Flight Kitchen building in the North Service Area ("NSA") or off airport; and
- Improvements such as roadway and intersection modifications, pedestrian and bicycle facilities, and site landscaping including the Phase 2 SWSA Landscape Edge Buffer.

The SWSA Redevelopment Program would implement appropriate noise, visual and light spill impact reduction measures for adjacent neighborhoods, and improved environmental management techniques, such as energy and water efficient building systems.

With preparatory actions expected to begin in late 2010 and construction from 2011 through 2015, the SWSA Redevelopment Program will create a variety of jobs (engineering, fabrication, construction, and other trades) that will contribute to the Commonwealth's economic recovery.

***Summary of the Proposed Program Changes***

The currently proposed program continues to include the consolidation of the existing rental car facilities and operations into a ConRAC (Levels 1 through 4 (rooftop) of the Garage Structure and CSC, as well as the QTAs). Consolidated commercial parking on Levels 4 and 5 of the Garage Structure, as previously proposed, has now been eliminated. The Taxi Pool would be relocated to the northern portion of the SWSA and the existing long term commercial overflow parking would remain on-site, as previously proposed but is relocated east of Jeffries Street. In contrast to the previous program, the Bus and Limousine Pool would be relocated/reconfigured within the SWSA (east of Jeffries Street). The Bus and Limousine Pool would, during construction of the SWSA Program, temporarily be relocated to the North Service Area ("NSA"). In addition, the planned demolition of the existing SWSA Flight Kitchen, and the consolidation of that Flight

Kitchen operation into the existing Flight Kitchen building in the NSA or off airport, will now be analyzed as part of the SWSA Program.

The revised SWSA Program would offer the following environmental and operational benefits compared to the previously proposed program:

- Reduction of the overall size of the Garage Structure by almost half (49 percent);
- Reduction in the overall height of the Garage Structure by 18 feet.
- Reduction of construction-related impacts due to a shortened construction schedule (single-phase);
- Reduction of the estimated rental car shuttle bus fleet size by 20 percent compared to the previous program;
- Reduction of the projected build traffic volumes entering and leaving the SWSA by four to seven percent compared to the previously reviewed program (with corresponding reductions in motor vehicle emissions and Greenhouse gases);
- Enhanced access to public transit for airport users, employees and residents through the Unified Bus System; and
- Reduction of the amount of potable water use and wastewater generation (both by approximately 4 percent) compared to the previously reviewed program.

We anticipate that MEPA will publish the Notice of Availability of the NPC for Public Review in the October 26, 2009 publication of the Environmental Monitor. Massport requests that the required 20-day NPC public review period be extended to 30 days (public comments due by November 26, 2009) to ensure the state agencies, local government departments, and the public have adequate opportunity to review and comment on the NPC.

Pursuant to MEPA regulations, in addition to Draft EIR/EA distribution and commenters, a copy of this NPC will be posted on Massport's website and made available in the local public libraries and additional copies will be made available upon request. Requests for copies of the NPC should be directed to Tom Ennis at 617-568-1090 or via e-mail at tennis@massport.com.

We look forward to the review of this document. Please do not hesitate to contact me if you have any questions.

Very truly yours,

Craig Leiner

Craig Leiner, Deputy Director, Surface Transportation
Massachusetts Port Authority

Enclosure

cc: Notice of Project Change Distribution List (see Attachment A)

# *Southwest Service Area Redevelopment Program at Boston-Logan International Airport*

East Boston,
Massachusetts

Submitted to **Executive Office of Energy and Environmental Affairs**
**Massachusetts Environmental Policy Act Office**

Proponent **Massachusetts Port Authority (Massport)**
Logan Office Center, Suite 200S
East Boston, MA 02128

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**Harris Miller Miller & Hanson** – Noise Consultant
**KB Environmental, Inc**. – Air Quality Consultant
**Brown Richardson & Rowe** – Landscape Architect
**Goody Clancy** – Urban Planning Consultant
**BVM Engineering** – Sustianable Design/LEED Consultant

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***Commonwealth of Massachusetts***
***Executive Office of Environmental Affairs ■ MEPA Office***

| *For Office Use Only*<br>*Executive Office of Environmental Affairs* |
|---|
| MEPA Analyst: |
| Phone: 617-626- |

# NPC

## Notice of Project Change

The information requested on this form must be completed to begin MEPA Review of a NPC in accordance with the provisions of the Massachusetts Environmental Policy Act and its implementing regulations (see 301 CMR 11.10(1)).

| | | |
|---|---|---|
| Project Name: **Southwest Service Area Redevelopment Program at Boston-Logan International Airport** | | EOEA #: **14137** |
| Street: **Harborside Drive** | | |
| Municipality: **East Boston** | Watershed: **Boston Harbor** | |
| Universal Tranverse Mercator Coordinates: **UTM 19, 46 92 398N, 3 32 832E** | Latitude: **42º 22' 04" N**<br>Longitude: **71 º 01' 46" W** | |
| Status of project construction: **0** %complete | | |
| Proponent: **The Massachusetts Port Authority (Massport)** | | |
| Street: **One Harborside Drive, Logan Office Center, Suite 200S** | | |
| Municipality: **East Boston** | State: **MA** | Zip Code: **02128** |
| Name of Contact Person From Whom Copies of this NPC May Be Obtained: **Thomas Ennis** | | |
| Firm/Agency: **Massport** | Street: **Logan Office Center, Suite 200** | |
| Municipality: **East Boston** | State: **MA** | Zip Code: **02128-2909** |
| Phone: **(617) 568-1090** | Fax: **(617) 568-3115** | E-mail: **tennis@massport.com** |

In 25 words or less, what is the project change? The project change involves . . . **reducing the development program to focus on the consolidation of the existing rental car facilities while removing the commercial parking element from the Garage Structure.**

See full project change description beginning on page 3.

Date of ENF filing or publication in the Environmental Monitor:
**November 26, 2007 (Volume 69, Issue 2)**

Was an EIR required? ☒Yes ☐No; if yes,
was a Draft EIR filed? ☒Yes (Date: **06/27/08** ) ☐No
was a Final EIR filed? ☐Yes (Date: ) ☒No
was a Single EIR filed? ☐Yes (Date: ) ☒No

Have other NPCs been filed? ☐Yes (Date(s): ) ☒No

If this is a NPC solely for lapse of time (see 301 CMR 11.10(2)) proceed directly to "**ATTACHMENTS & SIGNATURES"** on page 5.

**PERMITS / FINANCIAL ASSISTANCE / LAND TRANSFER**

List or describe all new or modified state permits, financial assistance, or land transfers not previously reviewed: **No new or modified state permits, financial assistance or land transfers are required for the proposed Program Change.**

Are you requesting a finding that this project change is insignificant? (see 301 CMR 11.10(6))
☐Yes ☒No; if yes, attach justification.

Are you requesting that a Scope in a previously issued Certificate be rescinded?
☐Yes ☒No; if yes, attach the Certificate

Are you requesting a change to a Scope in a previously issued Certificate? ☒Yes ☐No; if yes, attach Certificate and describe the change you are requesting: **The October 10, 2008 DEIR Certificate/FEIR Scope is included as Attachment C. Section 3, *Proposed Scope for the Final Environmental Impact Report/Environmental Assessment* of this NPC presents the suggested changes to the Scope.**

| Summary of Project Size & Environmental Impacts[1] | Previously reviewed | Net Change | Currently Proposed |
|---|---|---|---|
| **LAND** | | | |
| Total site acreage | **49 ac.** | **-0-** | **49 ac.** |
| Acres of land altered | **-0-** | **-0-** | **-0-** |
| Acres of impervious area | **44.4 ac.** | **(3.1 ac.)** | **41.3 ac.** |
| Square feet of bordering vegetated wetlands alteration | **-0-** | **-0-** | **-0-** |
| Square feet of other wetland alteration | **-0-** | **-0-** | **-0-** |
| Acres of non-water dependent use of tidelands or waterways | **-0-** | **-0-** | **-0-** |
| **STRUCTURES** | | | |
| Gross square footage | **2.7 million GSF** | **(1.3 million GSF)** | **1.4 million GSF** |
| Number of housing units | **-0-** | **-0-** | **-0-** |
| Maximum height (in feet) | **65 ft** | **(18 ft)** | **47 ft** |
| **TRANSPORTATION** | | | |
| Vehicle trips per day | **34,099** | **(1,411)** | **32,688** |
| Parking spaces (structured) | **7,600** | **(4,480)** | **3,120** |
| Parking spaces (surface) | **2,010** | **+340** | **2,350** |
| **WATER/WASTEWATER** | | | |
| Gallons/day (GPD) of water use | **91,950 GPD** | **(3,750 GPD)** | **88,200 GPD** |
| GPD water withdrawal | **-0-** | **-0-** | **-0-** |
| GPD wastewater generation/ treatment | **79,778 GPD** | **(3,382 GPD)** | **76,396 GPD** |

1 See Table 1-1 on page 1-5 of Section 1, *Notice of Project Change Description* for further details on the proposed changes to the Program and associated impacts/benefits.

Does the project change involve any new or modified:

1. conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97? ☐Yes ☒No

2. release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction? ☐Yes ☒No

3. impacts on Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities? ☐Yes ☒No

4. impact on any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?
☐Yes ☒No; if yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? ☐Yes ☒No

5. impact upon an Area of Critical Environmental Concern? ☐Yes ☒No

If you answered 'Yes' to any of these 5 questions, explain below:

**PROJECT CHANGE DESCRIPTION** (attach additional pages as necessary). The project change description should include:

(a) a brief description of the project as most recently reviewed

(b) a description of material changes to the project as previously reviewed,

(c) the significance of the proposed changes, with specific reference to the factors listed 301 CMR 11.10(6), and

(d) measures that the project is taking to avoid damage to the environment or to minimize and mitigate unavoidable environmental impacts. If the change will involve modification of any previously issued Section 61 Finding, include a proposed modification of the Section 61 Finding (or it will be required in a Supplemental EIR).

The primary Program change is **the removal of the commercial parking component** from the Garage Structure, which serves to:[1]

- Reduce the size of overall Garage Structure by approximately half;
- Reduce the height of the Garage Structure by one level, or 18 feet;
- Reduce the total number of structured parking spaces by 59 percent;
- Provide additional set-back of the Garage Structure from the airport property edge and the neighboring residential community;
- Retain the Bus and Limousine Pools within the SWSA;
- Retain the long term commercial overflow parking within the SWSA;
- Eliminate the second phase of construction (now a single-phase project); and
- Combine the individual rental car shuttle buses and Massport Airport Station buses (routes 22/33/55) through a Unified Bus System; thereby reducing the rental car shuttle bus fleet size by 70 percent compared to the Future No-Build/No-Action Conditions (from 94 vehicles to 28 vehicles).[2]

These changes would result in reduced project impacts, including:

1 The revised Program will not alter the total number of commercial parking spaces now located within the SWSA.

2 All other Massport bus routes (long-term parking; employee lot; water taxi; Logan Office Center) will continue as currently operated.

- Further reduction in vehicle-miles-traveled (VMT) and associated air emissions as compared to the Draft EIR/EA;
- Additional pervious/landscaped areas site-wide; and
- Even greater operational efficiency of the ConRAC facility through the reduction in floor area and volume of the Garage Structure.

## ATTACHMENTS & SIGNATURES

Attachments:

1. Secretary's most recent Certificate on this project
2. Plan showing most recent previously-reviewed proposed build condition
3. Plan showing currently proposed build condition
4. Original U.S.G.S. map or good quality color copy (8-1/2 x 11 inches or larger) indicating the project location and boundaries
5. List of all agencies and persons to whom the proponent circulated the NPC, in accordance with 301 CMR 11.10(7)

Signatures:

10.7.09 Craig Leiner 10.15.09 Lauren DeVoe

| Date | Signature of Responsible Officer or Proponent | Date | Signature of person preparing NPC (if different from above) |
|---|---|---|---|
| | Craig Leiner, Deputy Director, Surface Transportation | | Lauren DeVoe |
| | Name (print or type) | | Name (print or type) |
| | Massachusetts Port Authority | | Vanasse Hangen Brustlin, Inc. |
| | Firm/Agency | | Firm/Agency |
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| | Phone | | Phone |

# 1

# Notice of Project Change Description

## Introduction

In accordance with the provisions of the Massachusetts Environmental Policy Act (MEPA) and its implementing regulations (specifically 301 CMR 11.10(1)), the Massachusetts Port Authority (Massport), the Proponent, is submitting this Notice of Project Change (NPC) to document a change to the proposed Southwest Service Area (SWSA) Redevelopment Program at Boston-Logan International Airport– EEA No. 14137. The primary Program change is **the removal of the commercial parking component** from the Garage Structure, which serves to:[1]

- Reduce the size of overall Program by approximately half;
- Reduce the height of the Garage Structure by one level, or 18 feet;
- Reduce the total number of structured parking spaces by 59 percent;
- Provide additional set- back of the Garage Structure from the airport property edge and the neighboring residential community;
- Retain the Bus and Limousine Pools within the SWSA;
- Retain the long-term commercial overflow parking within the SWSA;
- Eliminate the second phase of construction (now a single-phase project); and
- Combine the individual rental car shuttle buses and Massport Airport Station buses (routes 22/33/55) through a Unified Bus System, thereby reducing the rental car shuttle bus fleet size by 70 percent compared to the Future No-Build/No-Action Conditions (from 94 vehicles to 28 vehicles).[2] [3]

These changes would result in reduced project impacts, including:

- Further reduction in vehicle-miles-traveled (VMT) and associated air emissions as compared to the previously proposed Program;
- Additional pervious/landscaped areas site-wide; and

1 The revised Program will not alter the total number of commercial parking spaces now located within the SWSA.
2 All other Massport shuttle buses (long-term parking; employee lot; water taxi; Logan Office Center) will continue as currently operated.
3 The reduction in rental car shuttle buses represents an approximate fuel savings of 407,000 gallons per year and, therefore, emissions compared to the 2007 Existing Condition.

- Even greater operational efficiency of the ConRAC facility through the reduction in floor area and volume of the Garage Structure.

This project was previously reviewed under the June 27, 2008 Draft Environmental Impact Report/Environmental Assessment (the "2008 Draft EIR/EA") which responded to the Secretary's January 30, 2008 Certificate on the Environmental Notification Form (ENF). This NPC presents the changes to the SWSA Redevelopment Program since the filing of the 2008 Draft EIR/EA, assesses the effects/benefits of the changes, summarizes the environmentally beneficial measures associated with the Program, and proposes a revised scope for the Final EIR/EA.

The SWSA has historically served as Logan Airport's ground transportation hub. Refer to Figure 1.1 for a site locus map and Figure 1.2 for an aerial image of the site. Figure 1.3 shows historic airport-related uses of the SWSA in the mid-1970s. Currently, eight rental car companies serve Logan Airport, seven of which are on-airport within the SWSA (Avis, Hertz, Alamo, Enterprise, Budget, National, and Dollar). Each rental car company has a separate facility for vehicle rental/storage, customer service and maintenance as well as an individually owned and operated fleet of diesel shuttle buses. The SWSA also contains a Taxi Pool, Bus and Limousine Pool, long term commercial overflow parking, and the Gate Gourmet Flight Kitchen (Figure 1.4).

In order to improve customer service and provide for more efficient and environmentally-friendly rental car operations, the previously reviewed 2008 Draft EIR/EA proposed the replacement of and upgrade to existing uses within the SWSA through the development of a consolidated rental car facility (the "ConRAC") and associated support functions. The SWSA Redevelopment Program presented in the 2008 Draft EIR/EA also proposed the consolidation of 3,000 existing commercial parking spaces from on-site and elsewhere on-airport into Levels 4 and 5 of the Garage Structure, and a Common Shuttle Bus – a dedicated bus system to/from airport terminals that would serve both rental car and commercial parking customers.

The Program has been revised in light of recent economic trends affecting airport operations and existing economic constraints on airport capital programs. This has forced Massport to reconsider the cost of constructing structured parking at this time and to defer exploration of alternative opportunities for consolidating commercial parking on-airport. Although, the reduced Program continues to improve customer service by consolidating existing rental car operations into a single facility while making efficient use of the existing ground transportation infrastructure. Based on an assessment of the proposed changes, as a result of the reduced, modified and/or reconfigured elements of the Program, the potential environmental impacts are anticipated to be reduced under all impact categories, as compared to the Program analyzed in the 2008 Draft EIR/EA. More importantly, the revised SWSA Redevelopment Program is expected to result in environmental conditions that are substantially better than the existing conditions and No-Build/No-Action alternatives.

Redevelopment of the SWSA is needed because under current conditions and projected future passenger growth (independent of the proposed Program), the SWSA and rental car facilities as they operate today are not adequate to meet Massport's or the rental car industry's future needs at Logan Airport. Existing space within the SWSA is severely constrained. The rental car companies have voiced concerns over their ability to maintain a high level of customer service within the existing facilities. Rather than allow each company to expand in an ad-hoc manner, Massport proposes to construct a consolidated facility that would increase operational efficiency for the rental car industry and improve environmental and operational conditions. Furthermore, with construction anticipated to commence in 2010, ConRAC facilities (the Customer Service

Center (CSC), Garage Structure and Quick Turnaround Areas (QTAs) 1 and 4) are planned to be operational by late 2013 with the remaining SWSA construction planned to be complete in early 2015 (Taxi Pool and Bus and Limousine Pool relocations and QTA 2 and 3), the SWSA Redevelopment Program would create a variety of jobs (engineering, fabrication and construction) that would contribute to the Commonwealth's economic recovery. It is estimated that construction of the SWSA Redevelopment Program would generate approximately 200 to 300 construction jobs over the 5-year construction schedule (with peak employment at nearly 400 jobs).[4] Additionally, by adhering to the goals and principals of sustainable design, the Program is expected to support local and regional providers of construction materials and/or products.

## Changes to the SWSA Redevelopment Program Since the 2008 Draft EIR/EA

As shown in Figure 1.5 and summarized in Table 1-1, the SWSA Redevelopment Program previously reviewed in the 2008 Draft EIR/EA called for a two-phased replacement of and upgrades to existing ground transportation uses within the SWSA. The 2008 Draft EIR/EA program proposed the development of a five-level, approximately 2.6 million gross square foot garage with approximately 7,600 parking spaces (4,600 rental car "Ready/Return" spaces on Levels 1, 2 and 3, and 3,000 commercial parking spaces on Levels 4 and 5) and a 114,000 gross square foot Customer Service Center (CSC). In addition, four QTAs totaling approximately 115,000 gross square feet in building area and approximately 1,250 surface parking spaces, a common clean-fuel bus system, a retained Taxi Pool, roadway and intersection improvements, and completion of the SWSA Landscape Edge Buffer (Phase 2) were also proposed. Refer to Table 1-1 below for the previously proposed building program.

Figure 1.5 and Table 1-1 present the revised 2009 SWSA Redevelopment Program (the "2009 NPC Program) compared to the previously reviewed plan and existing conditions. The 2009 NPC Program continues to include the consolidation of the existing rental car facilities and operations into a ConRAC facility (Levels 1 through 4 (rooftop) of the Garage Structure and CSC, as well as the QTAs) and eliminates the consolidated commercial parking previously proposed at Levels 4 and 5 of the Garage Structure. Although temporarily relocated, the Bus and Limousine Pool would be retained within the SWSA east of Jeffries Street (but would be moved to the North Service Area temporarily during construction). Key components of the 2009 NPC Program include:

- A 4-level Garage Structure with a Customer Service Center (CSC);
- Four service facilities with at-grade surface parking (QTAs);
- Retained Taxi Pool within the SWSA;
- Retained Bus and Limousine Pools within the SWSA;
- Retained long-term commercial overflow parking spaces within the SWSA;
- Demolished existing Flight Kitchen and consolidation of the Flight Kitchen operations into an existing flight kitchen building in the North Service Area or off-airport.

4 These figures do not include off-site or secondary jobs (management/administration, delivery, insurance, local businesses/eateries, etc.) that would benefit from the project as well.

- A Unified Bus System -- a consolidated clean-fueled rental car shuttle bus system that connects the ConRAC to the airport terminals combined with existing Massport airport buses that serve MBTA Blue Line Airport Station (routes 22/33/55);
- Site improvements including roadway modifications, pedestrian and bicycle facilities; and
- Site landscaping, including realization of the Phase 2 SWSA Landscape Edge Buffer.[5]

The 2009 NPC Program is still in the preliminary design phase. The information contained in this NPC represents a snapshot of the status of the 2009 NPC Program design as of September 2009. As design progresses, various elements will take shape including building façade treatment, landscape plans, and building support systems, such as mechanical, electrical and heating/cooling.

■

## Revised Analysis Assumptions and Conditions

The analysis conditions and forecast assumptions for passenger levels used in the previous environmental impact analyses have been revised and updated. The revised and updated analysis conditions and forecast assumptions inform this assessment of potential effects of the proposed changes to the Program (and will be applied to impact analysis presented in the Final EIR/EA). It is important to note that while the environmental impact analysis assumptions have changed due to the temporary reduction in passenger levels and rental car transactions (resulting in lower environmental impacts), the mitigation and beneficial measures have not been reduced and continue to be proposed as part of the 2009 NPC Program as they were in the 2008 Draft EIR/EA.

## Forecast Assumptions

The 2008 Draft EIR/EA forecasts used 2007 traffic volumes as the base year and applied an annual increase in passenger activity of 2.3 percent to project volumes to future conditions. The 2008 Draft EIR/EA projected an increase of traffic volumes through 2012 of 12 percent, and projected an increase through 2017 of 25.5 percent.

Since the filing of the 2008 Draft EIR/EA, two changes have occurred that alter the future growth projections used to estimate future traffic volumes for the 2009 NPC Program. Following 2007, Logan Airport experienced a reduction in passenger levels. Examination of air passenger enplanements and rental car transactions after 2007 indicates that passenger levels have dropped by approximately 11.5 percent. Passenger forecasts for the 2009 NPC Program were therefore lowered to account for the anticipated near term reduction in air passengers. The growth projections for the 2009 NPC Program assumes recovery to 2007 passenger levels by 2013, followed by 2.3 percent annual increases between 2013 and 2018. This results in a net increase of 12 percent for 2018 traffic volumes over 2007 levels (compared to 25.5 percent in the 2008 Draft EIR/EA). This forecast adjustment results in trip generation and VMT calculations for the SWSA that would be less than the results presented in the 2008 Draft EIR/EA.

▼

5 The Phase 2 SWSA Landscape Edge Buffer is described in the *Boston-Logan International Airport 2007 Environmental Data Report*, September 2008, Chapter 3, pg 3-12.

**Table 1-1**
**SWSA Redevelopment Program Comparison Summary (2008 Draft EIR/EA Program Compared to the 2009 NPC Program)**

| Summary of Project Size and Environmental Impacts | 2008 Draft EIR/EA SWSA Redevelopment Program (Full-Build) | | 2009 NPC SWSA Redevelopment Program (Full-Build)[1] | | CHANGE | | OVERALL PERCENT (%) CHANGE | |
|---|---|---|---|---|---|---|---|---|
| | Parking Spaces/ Vehicle Storage | Size | Parking Spaces/ Vehicle Storage | Size | Parking Spaces/ Vehicle Storage | Size | Parking Spaces/ Vehicle Storage | Size |
| ***Summary of Project Size*** | | | | | | | | |
| **Project Site Area** | | ± 49 ACRES | | ± 49 ACRES | | NO CHANGE | **NA** | **-** |
| **Garage Structure[2]** | | | | | | | | |
| Building Footprint | NA | 500,000 SF | NA | 301,000 SF | NA | (199,000 SF) | **NA** | **(40%)** |
| Number of Levels (Height) | NA | 5 Levels (65 FT) | NA | 4 Levels (47 FT) | NA | (1 Level/18 FT)[3] | **NA** | **(28%)** |
| ConRAC "Ready Space" vehicle storage[4] | 4,600 | 1,500,000 GSF | 3,120[5] | 1,212,500 GSF | (1,480) | (287,500 GSF) | **(32%)** | **(19%)** |
| Public commercial parking[6] | 3,000 | 1,000,000 GSF | -0- | -0- | (3,000) | (1,000,000 GSF) | **(100%)** | **(100%)** |
| **Customer Service Center (CSC)[7]** | NA | 114,000 GSF | NA | 113,000 GSF | NA | (1,000 GSF) | **NA** | **(1%)** |
| **Garage Structure SUB-TOTAL (Full-Build)** | **+/-7,600 spaces** | **+/-2,614,000 GSF** | **+/-3,120 spaces** | **+/-1,325,500 GSF** | **(+/-4,480 spaces)** | **(+/-1,288,500 GSF)** | **(59%)** | **(49%)** |
| **Quick Turnaround Areas (QTAs)** | | | | | | | | |
| Fueling/service areas | NA | 115,000 GSF[8] | NA | 112,000 GSF[8] | NA | (3,000 GSF) | **NA** | **(3%)** |
| Rental vehicle storage (at-grade, surface parking) | 1,700 | NA | 1,250 | NA | (450) | NA | **(26%)** | **NA** |
| **Taxi Pool** (at-grade, surface parking) | 310 | 7,000 GSF | 310 | 7,000 GSF | NO CHANGE | NO CHANGE | **-** | **-** |
| **Bus and Limousine Pools** (at-grade, surface parking)[9] | -0- | -0- | 370 | 2,500 GSF | 370 | 2,500 GSF | **100%** | **100%** |
| **Long Term Commercial Overflow Parking** | NA[6] | NA | 420 | NA | NO CHANGE | NO CHANGE | **-** | **-** |
| **Program (Full-Build) TOTAL** | **+/-9,610 spaces** | **+/-2,736,000 GSF** | **+/-5,470 spaces** | **+/-1,447,000 GSF** | **(+/-4,140 spaces)** | **(+/-1,297,500 GSF)** | **(43%)** | **(47%)** |
| ***Summary of Environmental Impacts*** | | | | | | | | |
| Acres of Land Altered[10] | NA | -0- | NA | -0- | NA | NO CHANGE | **NA** | **-** |
| Acres of Impervious Area | NA | 44.4 ACRES | NA | 41.3 ACRES | NA | (3.1 ACRES) | **NA** | **(7%)** |
| SF of bordering vegetated wetlands alteration | NA | -0- | NA | -0- | NA | NO CHANGE | **NA** | **-** |
| SF of other wetland alteration | NA | -0- | NA | -0- | NA | NO CHANGE | **NA** | **-** |
| Acres of non-water dependent use of tidelands or waterways | NA | -0- | NA | -0- | NA | NO CHANGE | **NA** | **-** |
| Vehicle trips per day[11] | NA | 28,859 - 34,099 | NA | 26,668 - 32,688 | NA | (2,191 - 1,411) | **NA** | **(7 - 4%)** |
| GPD of water use (includes irrigation) | NA | 91,950 GPD | NA | 88,200 GPD | NA | (3,750 GPD) | **NA** | **(4%)** |
| GPD water withdrawal | NA | -0- | NA | -0- | NA | NO CHANGE | **NA** | **-** |
| GPD wastewater generation/ treatment | NA | 79,778 GPD | NA | 76,396 GPD | NA | (3,382 GPD) | **NA** | **(4%)** |
| Length of water/sewer mains (in miles) | NA | 1.8 mi. / 2.6 mi. | NA | 1.8 mi. / 2.6 mi. | NA | NO CHANGE | **NA** | **-** |

FT = feet; SF = square feet; GSF = gross square feet; GPD = gallons per day

1 The 2009 NPC Program proposes a single-phased construction schedule.

2 Under the 2009 NPC Program, the Garage Structure is shifted slightly north and east (away from the airport edge/community).

3 One level was removed and the floor to floor height was reduced for a total garage height reduction of 18'-0".

4 Includes "Ready Spaces" and vehicle storage. The number of vehicle storage spaces is approximate; the planned number will vary depending on RAC operational practices, seasonal variations, fleet composition, inventory management, and/or demand profile. Under the 2009 N PC Program, Level 4 is reduced in area and the occupancy is changed from commercial parking to RAC vehicle storage (no customer access).

5 Estimated net parking based on 340 sf/car of floor area, including all ramps.

6 Under the Previous Plan, commercial parking was proposed for Levels 4 and 5. In accordance with the Logan Airport Parking Freeze, the parking management plan for the 3,000 proposed commercial parking spaces included a mix of existing relocated spaces, "designated" spaces, and "converted" spaces, including the approximately 420 long term overflow commercial parking spaces existing at the SWSA. Storage spaces used for rental car operations are not regulated under the parking freeze.

7 Under the 2009 NPC Program, the size of the CSC does not change significantly, but the orientation and configuration was changed to be rectangular-shaped verses triangular-shaped.

8 Includes space under canopies and approximately 50,000 square feet of office space on Level 2.

9 Under the 2008 Draft EIR/EA Program, the Bus and Limousine Pools would be relocated to the North Service Area (NSA) permanently. Under the 2009 NPC Program, the Bus and Limousine Pools would be relocated within the SWSA east of Jefferies Street and moved only temporarily to the NSA during construction.

10 The SWSA currently contains a total of approximately 47.4 acres of impervious area and 1.6 acre of landscaped areas (previously altered) in the southwest corner of the SWSA. The pervious areas will be maintained and enhanced as landscaped areas.

11 Represents a range of the average weekday daily traffic in vehicles per day. Range reflects the variations due to flight schedule and passenger travel patterns during an average week. Due to the program modifications, the more efficient Unified Bus System and revised passenger forecasts, the revised Program is estimated to generate approximately 4 to 7 percent less traffic than the 2008 Draft EIR/EA Program. Proposed level and type of mitigation remains the same as previously presented. Refer to Section 1, *Notice of Project Change Description* for further details.

## Analysis Years

A comparison between the future No-Build/No-Action and Build Conditions of the same year show operational changes that are projected to occur as a result of the 2009 NPC Program. The revised construction schedule indicates a date of beneficial occupancy (DBO) for the facility of 2013 which shifts the required future planning horizons to 2013 and 2018, from the 2012 and 2017 planning horizons used in the 2008 Draft EIR/EA. Due to changes in construction phasing, the conditions for the 2008 Draft EIR/EA environmental impact analyses and the proposed Final EIR/EA are presented in Table 1-2 below.

**Table 1-2**
**Revised Analysis Years**

| 2008 Draft EIR/EA | 2009 NPC/Final EIR/EA |
|---|---|
| 2007 Existing Condition | 2007 Existing Condition |
| 2012 No-Build/No-Action Condition | 2013 No-Build/No-Action Condition |
| 2017 No-Build/No-Action Condition | 2018 No-Build/No-Action Condition |
| 2012 Build Condition (Phase I) | 2018 Build Condition (Full Build) |
| 2017 Build Condition (Phase II/Full Build) | N/A |

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## Benefits of the 2009 NPC Program Design

Benefits resulting from the 2009 NPC Program are the same as previously presented in the 2008 Draft EIR/EA or are improved due to the program changes. The following is a summary of benefits:

- New upgraded and consolidated rental car facilities providing more efficient operations and improved customer service;
- A Leadership in Energy and Environmental Design (LEED®) certified program design that would meet the requirements of the Massachusetts LEED "Plus" program (MA LEED Plus) and strive to achieve a LEED Silver rating[6];
- A building orientation that shields the adjacent neighborhoods from existing airport roadways and operations/terminal areas; thereby, reducing noise and visual impacts;
- Installation of alternative energy (solar/wind) to supplement at least 2.5 percent of the total energy demand for the Program;
- The completion of the Phase 2 SWSA Landscape Buffer as previously agreed to with the community and additional site landscaping at airport edge; and

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6 The SWSA Redevelopment Program has been registered with the U.S. Green Building Council as a notification that Massport will pursue LEED certification.

- The opportunity to create new pedestrian and bicycle connections/facilities (new more direct links to local parks, public transportation, and airport facilities; safe crossings; secure bicycle storage) and enhance the pedestrian environment surrounding the SWSA with improved streetscapes and landscaping.

The 2009 NPC Program will continue to implement improved environmental management, provide landscaped buffers, including the continuation of the Logan Airport Edge-Buffer Program, reduce noise and improve air quality for adjacent neighborhoods through consolidation of the rental car shuttle bus fleet, reduce terminal curbside congestion, reduce airport-related traffic on off-airport roadways, and reduce Greenhouse Gas (GHG) emissions through the incorporation of sustainable design principles (e.g., complying with the LEED Green Building Rating System). Table 1-3 provides a detailed summary of changes by Program element. Following the table each new/revised Program element is described further below. The 2009 NPC Program is shown in Figure 1.6 and the proposed landscape plan is shown in Figure 1.7.

**Table 1-3**
**Summary of Design Refinements Since the 2008 Draft EIR/EA**

| Program Element | Previous Program/2008 Draft EIR/EA (Phase II/Full-Build) | 2009 NPC Program (Single-Phase/Full-Build) |
|---|---|---|
| Garage Structure | 5 Levels (4 levels + rooftop) | 4 Levels (3 levels + rooftop) |
| | L-shaped building configuration | Rectangular-shaped building configuration |
| | Rental car "ready/return" parking on Levels 1-3 (with customer access) | Rental car "ready/return" parking on Levels 1-3; Rental car storage parking on rooftop (no customer access) |
| | Commercial parking on Levels 4-5 (with customer access) | No commercial parking in the Garage Structure; Rental car vehicle storage on Level 4 |
| | Dedicated elevated Bus Ramp and Bus Loop to/from Ramp E-T for the Common Shuttle Bus | Dedicated Bus Ramp and Bus Loop removed |
| | | Elevated bus ramp with access off of SR-14 to pick-up at upper level of CSC (as high as18 feet above-grade over Porter Street); returns to lower level with access off existing SR-14 to Harborside Drive via access just south of Porter Street |
| | Spiral helix ramps (tallest element and directly adjacent to airport edge/community) | Spiral helix ramps eliminated; replaced by series of straight ramps on garage perimeter (south ramp to be screened) |
| Customer Service Center (CSC) | 2 Levels for drop-off/pick-up | No Change |
| | 5 customer circulation levels | 3 customer circulation levels – Level 4 is service only. |
| | Triangular-shaped | Rectangular-shaped |
| Quick Turn-Around Areas (QTAs) | 4 QTAs total | No Change |
| | 2 QTAs located west of Jeffries and 2 located east of Jeffries | All four QTAs located west of Jeffries |
| Taxi Pool | Retained within the SWSA (north of Porter Street) | No Change |
| | Dedicated surface parking/queuing area | |
| | Administration building located along Porter Street | No Change |
| | | The administration building has been relocated to the northwest edge of the Taxi Pool to provide buffer between SWSA activities and the adjacent ball field |
| Bus and Limousine Pools | Relocated to North Service Area (NSA) | Temporarily relocated to NSA during construction; relocated back to the SWSA east of Jeffries Street |
| | Surface parking and administration building | Surface parking and administration building |
| Flight Kitchen | To relocate off of the SWSA at end of the lease term (independent of the Program) | Demolition of existing SWSA Flight Kitchen and consolidation of that use into existing NSA flight kitchen building or relocation off-airport, included in 2009 NPC Program analysis |
| Long Term Commercial | Spaces retained on-site and combined as part of the 3,000 consolidated commercial structured parking spaces from | Existing parking spaces retained and relocated on-site as surface parking east of Jeffries Street (similar number of |

**Table 1-3**
**Summary of Design Refinements Since the 2008 Draft EIR/EA**

| Program Element | Previous Program/2008 Draft EIR/EA (Phase II/Full-Build) | 2009 NPC Program (Single-Phase/Full-Build) |
|---|---|---|
| Overflow Parking | elsewhere on-airport, in compliance with the Logan Airport Parking Freeze | spaces) |
| Bus System | Common Shuttle Bus dedicated to rental car and commercial parking customers only | Unified Bus System (consolidated rental car shuttle bus combined with Massport Airport Station routes 22/33/55)[1] |
| Site Circulation and Roadway Improvements | Primary access via extension of Hotel Drive across Harborside Drive and connecting to Hotel Drive Extension (formerly Tomahawk Drive) | No Change |
| | Primary egress from the SWSA would be an expanded and dedicated, one-way road (at Jeffries Street) to the airport roadway and the regional roadway/tunnel systems | No Change |
| | Primary access to the northern area of the SWSA and egress to the Terminal Area Roadways would be provided through the Harborside Drive/Porter Street intersection | No Change |
| | Modifications would be implemented to improve intersections at Harborside Drive/Porter Street and at Harborside Drive/Jeffries Street | No Change |
| | Traffic signals would be upgraded at the same intersections as well as at any other necessary sites on-airport | No Change |
| | Porter Street would be realigned and expanded to accommodate the Taxi Pool | No Change<br>Hotel Drive/North Service Road realignment<br>MBTA Airport Station curbside and roadway modifications |
| Bicycle/Pedestrian Facilities and Urban Design | New bicycle facilities for customer and public use (bike lanes; secure storage) | No Change |
| | Pedestrian access and improvements (connection to Memorial Stadium Park and Harborwalk; new safe street crossings) | No Change |
| Edge Buffer/Site Landscaping | Phase 2 SWSA Landscape Edge Buffer to be implemented along Maverick and Geneva Streets | No Change |
| | Other site landscaping throughout | No Change |
| | Increased pervious area by approximately 3 acres compared to existing conditions (an overall total of approximately 4.6 acres site-wide) | Increased pervious area by approximately 3.1 acres compared to the 2008 Draft EIR/EA for an overall total of approximately 7.7 acres site-wide |
| Sustainable Design and Operations | LEED certification (comply with MA LEED Plus; strive to achieve a Silver rating) | No Change |
| | Reduce energy consumption by 20% at minimum | No Change |
| | On-site renewable energy to account for at least 2.5% of total energy load | No Change |
| | Maximizing natural light and ventilation in the Garage Structure | No Change |
| | Incorporate day lighting strategies for interior spaces (i.e., CSC) | No Change |
| | Conduct 3rd-party commissioning | No Change |
| | Reduce potable water demand by 20% (to strive for 30%) through high-efficient plumbing fixtures | No Change |
| | Reduce potable water use for irrigation by 50% and strive for zero potable water use | No Change |
| Sustainable Design and Operations (continued) | Reclaim approx. 75% of car washing water | No Change |
| | Incorporate noise-reduction strategies into site and building layout/design | No Change |
| | Increase pervious area | No Change |
| | Improve quality of stormwater runoff, including LID measures | No Change |

**Table 1-3**
**Summary of Design Refinements Since the 2008 Draft EIR/EA**

| Program Element | Previous Program/2008 Draft EIR/EA (Phase II/Full-Build) | 2009 NPC Program (Single-Phase/Full-Build) |
|---|---|---|
| | Replace/upgrade all fueling tanks and systems | No Change |
| | Utilize clean- and low-emission fuel for bus system | No Change |
| | Encourage alternative transportation by construction of bicycle/pedestrian corridors/connections/facilities | No Change |
| | Improve efficiency of circulating vehicles through site circulation and signage | No Change |
| | Provide for/encourage TDM measures to reduce single-occupancy vehicle trips of employees and customers | No Change |
| | Provide infrastructure for future on-site alternative fuel (electricity for plug-in vehicles or E-85 station) | No Change |
| | Reduce light spill off-site | No Change |
| | Provide high-level of indoor environmental quality of CSC, QTA and other site buildings | No Change |
| | Favor non-toxic, high-recycle content and/or low-embodied energy building materials | No Change |
| | Divert/reduce construction waste by 75% (strive for 90%) | No Change |
| | Retro-fit construction equipment to reduce temporary air quality impacts | No Change |
| | Institute a goal of 50% reduction in operational waste | No Change |
| | Encourage RACs to implement environmental policies/sustainable operations | No Change |
| | Optimize energy use through operation | No Change |
| | Conduct monthly and quarterly stormwater sampling | No Change |
| Architecture/Visual | Reduce potential noise exposure from garage operations | No Change |
| | Control light spill | No Change |
| | Capitalize on southern exposure by using architectural green screen and/or plantings at base of the Garage Structure façades facing the community. | No Change |
| | Set back approximately 410 feet to 560 feet from Airport edge/community | Set back an additional 60 feet from western airport edge and an additional 18 feet from southern airport edge |
| | | Garage shifted east so that majority of the structure is shielded by the existing 18-foot noise barrier reducing visual impacts to homes on Maverick Street |
| Construction Phasing | Two-phased construction schedule | Single-phased construction schedule |
| | Phase I completion/operation date of 2014 | Completion date (Full-Build) of 2015 (to begin operating as early as 2013) |
| | Phase II/Full-Build completion date of 2017 | |
| | Taxi Pool to be relocated within the SWSA (the Avis site); Avis to be relocated to Lot B | Taxi Pool to be relocated temporarily to Lot B during construction (cell phone lot relocated off SR-2) |
| | Bus and Limousine Pools to be relocated to the North Service Area | Bus and Limousine Pools to be relocated temporarily to the North Service Area during construction and returned back to the SWSA |
| | Roadway improvements proposed to accommodate the additional traffic | No Change; concept of Dave's Way Connector is no longer required |

1 All other Massport airport buses (e.g., long-term parking; employee lot) will continue as currently operated.

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## Garage Structure

A key programmatic change to the SWSA Redevelopment Program includes removal of the commercial parking component from the Garage Structure (the approximately 3,000 existing on-airport spaces previously proposed for consolidation to Levels 4 and 5). The currently proposed Garage Structure consists of two main components: 2,500 rental car "ready/return" parking spaces for customer pick-up (Levels 1-3); and 620 rental car storage with no public access (rooftop Level 4). Entry to and primary exit from the Garage Structure would be along the south side. Separate and dedicated rental car employee access and rental car customer vertical circulation ramps are stacked along the west side of the Garage Structure.

The removal of the commercial parking spaces within the Garage Structure combined with a re-organization of and improvement to the garage design (which resulted in a reduction in rental car spaces) represents:

- A reduction of almost half in the overall gross square footage;
- A reduction of 40 percent in the building footprint;
- A 59 percent reduction in structured parking spaces;
- A reduction in height from 65 feet to 47 feet (through a reduction in the height of each parking level as well as removal of a parking level previously proposed for commercial parking);
- An increase in set back from the airport edge and neighboring Gove Street residential community (an additional 60 feet from the western edge and an additional 18 feet from the southern edge for a total ranging from 470 to 620 feet away from the airport edge/community); and
- A shift (to the east) so that majority of the structure is shielded by the existing 18-foot noise barrier reducing visual impacts to homes on Maverick Street. This is expected to result in further reductions in noise, visual and light impacts.

Figure 1.8 illustrates the key changes to the Garage Structure.

Shorter façade lengths and lower building height mean reduced visibility of the building to the community. The bulk of the Garage Structure is now hidden from Maverick Street, behind Massport's existing sound wall. The southwest corner of the Garage Structure will continue to be screened from the community. The west and north façades will be similarly treated, with screening of the façades visible to the community.

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## Customer Service Center

The CSC, which continues to be adjacent to the Garage Structure, has been reshaped and reduced in size slightly (by 1,000 gross square feet) to better accommodate the revised Garage Structure program. Rental car customers will enter and exit on the east side of the building facing the airport, closest to the terminal area and access roadway by way of the Unified Bus System (described below). Customer access to the Garage Structure (Levels 1-3) from the CSC will occur via enclosed pedestrian passages along the west side of the CSC. The CSC will also include a Ground Transportation Unit operating center to support management of the Unified Bus System.

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### Vehicle Fueling, Service, and Storage (QTAs)

The four rental car service and storage areas commonly referred to as "Quick Turnaround Areas", or QTAs, have been relocated west of Jeffries (Figure 1.6). The previously proposed improvements to the QTA buildings (e.g., enclosure of noise-generating equipment) and solid fences/walls designed to reduce noise from activities at the QTA facilities (including car washing and vehicle movements) continue to be proposed providing a noise and visual buffer as well as a buffer from the intrusion from headlights into the adjacent community.

■

### Bus and Limousine Pools

Under the 2009 NPC Program, the Bus and Limousine Pools will be temporarily relocated to the North Service Area (NSA) during construction and returned back to the SWSA (just west of its existing location east of Jeffries) upon completion of the ConRAC (Figure 1.6). The Bus and Limousine Pools would include a total of approximately 370 parking spaces and a 2,500 square foot administration building. Buses and limousine vehicles will access the SWSA off of Harborside Drive through a shared access with the retained long-term commercial overflow parking lot off of Tomahawk Drive. Impacts associated with this use would be comparable to the Existing and No-Build/No-Action Conditions for traffic and noise since they currently exist within the SWSA.

The improvements to the signal system and pedestrian improvements at the Frankfort Street/Lovell Street intersection at the NSA, as previously proposed, would be required to mitigate temporary impacts during construction and would remain in place after the Bus and Limousine Pools are relocated back to the SWSA. The proposed intersection improvements would include new pedestrian ramps at each corner, crosswalks, pedestrian signals and sidewalk connection to the Bremen Street Park entrance. These improvements position the proposed signalized intersection as a vital node within the planned East Boston Greenway enabling pedestrians and bicyclists to safely cross Frankfort Street. The proposed intersection improvements are consistent with long-range regional and airport ground transportation plans that envision the Frankfort Street/Lovell Street intersection as a key intersection serving the East Boston Haul Road/Chelsea Truck Route and the Urban Ring Phase 2 (of the Regional Transportation Plan), both of which anticipate a traffic signal at this location, as well as a future NSA landscape buffer as part of the Massport Bus Maintenance Facility. The conceptual on-airport Lovell Road/Dave's Way Connector previously proposed in the 2008 Draft EIR/EA is no longer proposed or required since traffic impacts of the Bus and Limousine Pool within the NSA would be temporary.

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### Long Term Commercial Overflow Parking

The existing long term commercial overflow parking lot located in the southwest corner of the SWSA (the former post office site) will be retained and relocated within the SWSA as surface parking (with a similar number of spaces) east of the proposed Bus and Limousine Pool (east of Jeffries) and will be further away from residences than where the spaces are currently situated.

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## Unified Bus System

The 2008 Draft EIR/EA Common Shuttle Bus concept was re-evaluated to identify opportunities to combine the consolidated rental car shuttle service with other existing Massport airport bus services. A new combined bus fleet that would serve both ConRAC facility customers (replacing the eight on- and off-airport rental car companies' individual diesel shuttle bus services) and MBTA Airport Station riders (Massport airport bus routes 22/33/55) is proposed as part of the 2009 NPC Program. All other Massport airport buses (long-term economy parking; employee lot; water taxi; Logan Office Center) will continue as currently operated. Refer to Figure 1.9 for an illustration of the proposed Unified Bus System compared to the existing individual rental car shuttle bus operations.

The proposed Unified Bus System would:

- Continue to consolidate individual rental car shuttle bus fleets;
- Utilize 60-foot, articulated buses with clean/low-emission fuels;[7]
- Replace Massport's existing airport bus routes 22/33/55 that currently connect MBTA Airport Station to the Terminal Arrivals levels only;
- Reduce the rental car shuttle bus fleet by 70 percent (from 94 vehicles to 28 vehicles);
- Provide new service for MBTA Airport Station riders to the Departures levels as well as the Arrivals of the Terminals and provide service to both the upper and lower levels of the ConRAC – all of which improves customer service and operational efficiency, and reduces curbside congestion and associated emissions;
- Include the installation of efficiency improvements and Intelligent Transportation System (ITS) elements, such as:
  - Operations Center within ConRAC facility;
  - Enhanced operations management;
  - Advanced communication system;
  - Enhanced Automatic Vehicle Location (AVL) system;
  - Automated scheduling/dispatch system;
  - Dynamic message signs at MBTA and ConRAC pick-up curbsides;
  - System integration with terminal curbside camera systems; and
  - Camera coverage of MBTA and ConRAC curbsides.
- Result in an over 55 percent reduction in VMT (and associated air emissions) when compared to the 2018 No-Build/No-Action Condition (this represents a 24 percent reduction when compared against the previously proposed Common Bus Shuttle operation analyzed in the 2017 Build Condition of the 2008 Draft EIR/EA).

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7 'Articulated' buses include three doors and are fitted with an extra axle (set of wheels) and a joint usually located slightly behind the midpoint of the bus, behind the second axle.

The Unified Bus System includes a proposed ramp connection off of the existing airport roadway SR-14 to the second level of the CSC. This allows separation of the boarding and alighting movements from the proposed Arrivals and Departures routes. The proposed consolidation of the Hotel Drive signalized intersections with Ramp D-S and SR-2 will improve the efficiency of the proposed routes by limiting stopped delays at traffic signals and reducing route distances. Curbside improvements at Airport Station would be included as part of the Unified Bus System to allow separation of the boarding and alighting movements from the proposed Arrivals and Departures routes.

Preliminary evaluation of the Unified Bus System operations indicates that implementation would provide many benefits (operational and environmental), while providing both MBTA travelers and rental car customers with enhanced customer service. Curbside congestion at the passenger terminals would be reduced with the elimination of multiple rental car shuttle buses accessing the curbsides simultaneously and the reduction in the number of Massport airport bus trips. Travel time for many of the rental car shuttle routes to and from the terminals will be improved compared to the existing service, which stops at each terminal dropping off and picking up passengers. The proposed Unified Bus System would be predominantly operated with Terminal A/B and Terminal C/E routes that will be either picking-up or dropping-off, not performing both actions. By combining the rental car shuttle bus operations with the Massport airport bus routes 22/33/55, customers would have direct access from public transit to rental car facility and vice versa making it convenient for the public, including rental car employees to take the MBTA to the airport to rent a car or travel to work. Additionally, MBTA travelers and rental car customers will travel from Airport Station directly to the Departures Level (riders are currently dropped off at the Arrivals level and use the terminal vertical circulation to get to Departures level).

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## Construction

The period of construction has been reduced as the facility would be constructed in a single phase. Construction is anticipated to commence in 2010. ConRAC facilities (the CSC, Garage Structure, permanent QTAs 1 and 4, and temporary QTAs 2 and 3) would be constructed first. By early 2015, the entire 2009 NPC Program would be constructed and operational.

Construction of the ConRAC facilities will be preceded by numerous enabling activities that re-organize the SWSA through multiple sub-phases allowing for enough of the site to be cleared for staging and construction. Temporary relocations for the 2009 NPC Program include:

- Taxi Pool would be temporarily relocated to Lot B with roadway and signal modifications to Harborside Drive at the Hyatt intersection to mitigate traffic conditions. Upon completion of the ConRAC facility, the Taxi Pool would be relocated back to the SWSA north of Porter Street.
- The Cell Phone Lot (currently at Lot B) would be temporarily relocated to an existing open parking lot across from the Logan Airport gas station. The intersection of Hotel Drive and the service road will be reconfigured to improve traffic flow and reduce wait times for all traffic at this intersection. The Cell Phone Lot would then be relocated back to Lot B once the Taxi Pool is relocated back to the SWSA.

- The Bus and Limousine Pools would be temporarily relocated to the North Service Area (NSA), which would require local site improvements including roadways (discussed below), drainage, and underground utilities. Upon completion of the ConRAC facilities, the Bus and Limousine Pools would be relocated back to the SWSA east of Jeffries Street.

The reduced construction period and phasing would result in reduced construction-related impacts (specifically, traffic, air, and noise). All previously proposed construction-related mitigation would be implemented. Refer to Section 2, *Summary of Beneficial Measures* for further details on proposed construction-related mitigation.

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## Agency Coordination

Since the filing of the DEIR/EA, Massport has coordinated with state and local agencies regarding issues stated in the DEIR/EA Certificate/Scope for the Final EIR/EA in the following impact areas:

- Greenhouse Gas emissions;
- Stormwater management/water quality;
- Soil and groundwater conditions; and
- Meetings with DOER, EOT and DEP regarding alternative energy, including solar and/or wind power.

On November 18, 2008, Massport met with the MEPA Office and the Massachusetts Department of Energy Resources (DOER) to strategize on how to assess and reduce GHG emissions associated with the 2009 NPC Program, in accordance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*. Additionally, a physical inspection of the existing Maverick Street Outfall was undertaken to reconcile inconsistent information in drainage plans for the area.

On January 21, 2009, Massport met with the Boston Water and Sewer Commission (BWSC) to discuss the SWSA drainage plan which includes removing stormwater flow from four acres of the site from the BWSC combined sewer system in Maverick Street. The proposed SWSA stormwater management plan and modifications to the existing Maverick Street Outfall (Outfall 004) were reviewed. BWSC was in agreement with the proposed overall stormwater management approach and modifications to the Outfall 004 and its involvement will be ongoing as the design continues into the preliminary and final design phases. The minor modifications to Outfall 004 are not anticipated to require changes to either Massport's or BWSC's NPDES permits. The minutes from the meeting with BWSC and sketches of the proposed modifications can be found in the 'Work within the Maverick Street Outfall' section of Attachment D. On February 25, 2009, Massport submitted responses to DEP's drainage-related comments on the 2008 Draft EIR/EA.[8] A copy of this submission package to DEP is provided in Attachment D. This information is in response to DEP's comments on the 2008 Draft EIR/EA.

On August 20, 2008, Massport filed a Response Action Outcome statement (RAO) for Release Tracking

▼

8 DEP comment letter dated September 26, 2008 (received by the MEPA Office on September 30, 2008).

Number (RTN) 3-27068, which was the remaining open RTN area within the SWSA (the site of the new Enterprise facility on Tomahawk Drive). The remedial investigation at this location achieved a Class B-1 RAO, meaning that contamination was found to be present at or below levels protective for current or future site uses.

## Summary of Potential Environmental Impacts and Benefits of the Program Change

The following section summarizes the potential impacts of the Program changes and benefits of the reduced 2009 NPC Program. No new significant impacts would result from the proposed changes; the revised 2009 NPC Program continues to provide for improved customer service and surface transportation operational efficiency while further reducing environmental and community impacts compared to the previously proposed program. Section 2, *Summary of Beneficial Measures*, provides a comprehensive summary of proposed mitigation and/or beneficial measures–all of which have been retained and carried through from the 2008 Draft EIR/EA to the 2009 NPC Program.

Based on the relevant factors/considerations set forth in the MEPA regulations, 301 CMR 11.10(6), the changes to the Program are not significant, do not involve the expansion of the project, would not result in the generation of new impacts (discussed more fully below), and do not require new or amended permits/approvals. A shorter construction schedule is proposed as part of the 2009 NPC Program. The previous program was proposed in two phases where Phase II (Full-Build) was anticipated to be complete in the last quarter of 2017. The 2009 NPC Program will be constructed in a single phase with construction is anticipated to be complete in early 2015.

■

### Transportation and Parking

As evaluated in the 2008 Draft EIR/EA, there are no anticipated significant traffic impacts associated with the 2009 NPC Program. As a result of the proposed reduction in the overall size of the Program (e.g., the removal of 3,000 commercial parking spaces from the Program), the new Unified Bus System concept, and lowering of future traffic projections (change in assumptions), the total trip generation is expected to result in 4 to 7 percent less traffic adjacent to and within the SWSA than the previously proposed program. The following summarizes the findings of the ground transportation assessment:

- With the proposed roadway and intersection improvements, all study area roadway and intersections are expected to continue to operate at or above acceptable levels.
- The projected VMT associated with the 2009 NPC Program is anticipated to be less than projected VMT in the 2008 Draft EIR/EA (by 4 to 7 percent).
- The proposed fuel-efficient/clean-fueled Unified Bus System provides for a reduction in the rental car shuttle bus fleet by 70 percent (from 94 vehicles to 28 vehicles) and a reduction in the rental car shuttle bus system vehicle-miles-traveled compared to No-Build/No-Action Conditions by more than half (all of which would reduce air emissions).

- The Unified Bus System is anticipated to provide many benefits (operational and environmental), while providing both MBTA travelers and rental car customers with enhanced customer service and access to public transit for airport users, employees and residents.
- Intelligent Transportation System (ITS) elements will be installed as part of the Unified Bus System increasing its efficiency.

## Unified Bus System

A comparison of the Unified Bus System to the No-Build Condition (individual rental car shuttle buses) demonstrates that the estimated shuttle bus fleet size would be reduced from 94 vehicles to 28 vehicles, which represents a 70 percent reduction. Table 1-4 below indicates that the Unified Bus System will result in an over 55 percent reduction of vehicle-miles-traveled (VMT) when compared against the 2018 No-build/No-Action Condition and 24 percent reduction when compared against the Common Bus Shuttle operation proposed under the 2017 Build Condition (as described in the 2008 Draft EIR/EA). This reduction in VMT is expected to result in positive air quality benefits regarding critical emissions (Table 1-6 under the 'Air Quality' section below).

**Table 1-4**
**Unified Bus System Vehicle-Miles-Traveled (VMT) Summary**

| Analysis Condition | Massport Airport Bus VMT[1] | Departures Level VMT | Arrivals Level VMT | Total VMT |
|---|---|---|---|---|
| 2018 No-Build/No-Action Condition (2009 NPC) | 1,311 | 0 | 5,321 | **6,632** |
| 2017 Build Condition[1] (2008 Draft EIR/EA) | 1,007 | 1,522 | 1,387 | **3,915** |
| 2018 Build Condition[2] (2009 NPC) | 304 | 1,313 | 1,351 | **2,968** |

1 Includes VMT associated with Massport airport bus routes combined with the consolidated rental car shuttle buses (routes 22/33/55). The 2017 Draft EIR/EA condition includes the elimination of the Massport airport bus route 88.
2 Assumes a Unified Bus System with a 36-passenger articulated bus fleet and all proposed airport roadway improvements in place.

## Bus and Limousine Pools

By retaining the Bus and Limousine Pools within the SWSA, traffic impacts associated with this use would be comparable to the Existing and No-Build/No-Action Conditions for traffic since it currently exists within the SWSA. Compared to the 2008 Draft EIR/EA, which proposed the long-term relocation of the Bus and Limousine Pools to the NSA (which is further away from the airport terminals and not as directly linked to airport and regional surface roadways), the 2009 NPC Program would result in lower VMT within the roadway network (and, therefore, lower air emissions) because of the SWSA's proximity to airport and regional surface roadways and, thus, shorter routes.

Improvements to the NSA (specifically the Frankfort Street and Lovell Road intersection, as previously proposed under the 2008 Draft EIR/EA) will be required to mitigate temporary impacts during construction. The conceptual on-airport Lovell Road/Dave's Way Connector previously proposed in the 2008 Draft

EIR/EA is no longer proposed or required since traffic impacts of the Bus and Limousine Pool within the NSA would be temporary.

## SWSA Redevelopment Program Traffic

Table 1-5 presents a comparison of the trip generation characteristics of the 2009 NPC Program to the 2008 Draft EIR/EA Build Conditions. Due to the modifications, the more efficient Unified Bus System and revised passenger forecasts, the revised program is estimated to generate approximately 4 to 7 percent less traffic than the 2008 Draft EIR/EA.

**Table 1-5**
**SWSA Trip Generation Comparison (vehicles per day)[1]**

| Land Use | Analysis Condition | | | |
|---|---|---|---|---|
| | **2012 Build** (2008 Draft EIR/EA) | **2017 Build** (2008 Draft EIR/EA) | **2013 Build** (2009 NPC) | **2018 Build** (2009 NPC) |
| Rental Car (SWSA)[2] | 9,844-12,274 | 10,654-13,384 | 7,154-9,124 | 7,758-9,968 |
| Taxi Pool | 11,200-13,440 | 12,550-15,060 | 10,000-12,000 | 11,200-13,440 |
| Bus and Limousine Pools[3] | - | - | 6,000-7,400 | 6,720-8,290 |
| Flight Kitchen[4] | - | - | - | - |
| Long Term Commercial Overflow Parking | 1,390 | 1,975 | 200[5] | 200[5] |
| E. Boston Traffic (Maverick St. Gate)[6] | 3,590 | 3,680 | 960 | 990 |
| | **26,024-30,694** | **28,859-34,099** | **24,114-29,484** | **26,668-32,688** |

1 Average weekday daily traffic in vehicles per day. Range reflects the variations due to flight schedule and passenger travel patterns during an average week.
2 Includes rental cars, rental car buses, off-site rental car shuttling, and employee traffic.
3 Assumed to be relocated to the NSA under the 2008 Draft EIR/EA Program.
4 Assumed to be relocated to the NSA under future No-Build/No-Action Conditions.
5 Trip associated with the retained long term commercial overflow parking spaces, which are the same as the No-Build/No-Action Conditions.
6 With the installation of upgraded access card and control gate improvements at the Maverick Street Gate, traffic volume data indicates that use of the gate has declined by over 70 percent, from 3,500 vehicles per day (vpd) in August 2007 to 939 vpd in August 2008. Therefore, the 2013 and 2018 No-build/No Action and Build Conditions reflect the lower Maverick Street Gate traffic volumes.

## Long Term Commercial Overflow Parking

Massport will retain and relocated the existing long term commercial overflow parking spaces in the SWSA. Massport will continue to look for opportunities for the long term consolidation of the existing commercial parking on-airport consistent with the Logan Airport Parking Freeze.[9]

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## Air Quality

As with the 2008 Draft EIR/EA program, there are substantial air quality benefits associated with the 2009 NPC Program. The 2009 NPC Program is expected to improve compliance with the following air quality regulations, requirements and initiatives:

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9 Code of Massachusetts Regulations, Department of Environmental Protection, CMR Section 310, 7.3.

- National and Massachusetts Ambient Air Quality Standards (AAQS);
- Federal Clean Air Act (CAA) General Conformity Rule; and
- Logan Airport Air Quality Initiative (AQI).

The following summarizes the findings of the air quality assessment:

- Compared to the 2008 Draft EIR/EA, the revised 2009 NPC Program would result in a reduction in air emissions and lower concentrations of nitrogen oxides ($NO_x$), volatile organic compounds (VOCs), carbon monoxide (CO), particulates (PM), and GHG emissions. This is based on the projected reduction in vehicles (commercial parking, rental cars, and rental car shuttle buses) traveling to and from the SWSA on adjoining roadways and moving within the site and reduced VMT associated with the Bus and Limousine Pools as well as improved employee and customer access to public transit.
- The Unified Bus System with a reduced bus fleet would result in reduced Program-related air emissions as a direct result of lower VMT and the use of low-emission/clean fuel and Intelligent Transportation System efficiency elements compared to both the No-Build/No-Action and 2008 Draft EIR/EA Build Conditions and substantially better than the 2007 Existing Condition.
- The net differences in total emissions (Future Build minus No-Build/No-Action Conditions) for $NO_x$, VOC, and CO are expected to remain well within the applicable *de minimis* levels of the federal CAA General Conformity Rule.
- The results of the atmospheric dispersion modeling of CO and $PM_{10/2.5}$ in the vicinity of the SWSA are expected to remain well within the applicable federal and state AAQS.
- Based on the Draft EIR/EA CO intersection "hot-spot" dispersion modeling, the air concentrations are expected to remain well within the AAQS for this pollutant.
- Construction-related emissions are also expected to be less with a scaled-back Program requiring a single construction phase (compared to the previously proposed two phases).
- Construction-related emissions of $NO_x$, VOC, and CO are also expected to remain well within the applicable *de minimis* levels of the federal CAA General Conformity Rule.

## Unified Bus System

The proposed Unified Bus System would further reduce air emissions as a direct result of lower VMT associated with this vehicle fleet. Table 1-6 summarizes the air quality emission associated with the proposed Unified Bus system compared to the previously proposed Common Shuttle Bus proposed as part of the 2008 Draft EIR/EA.

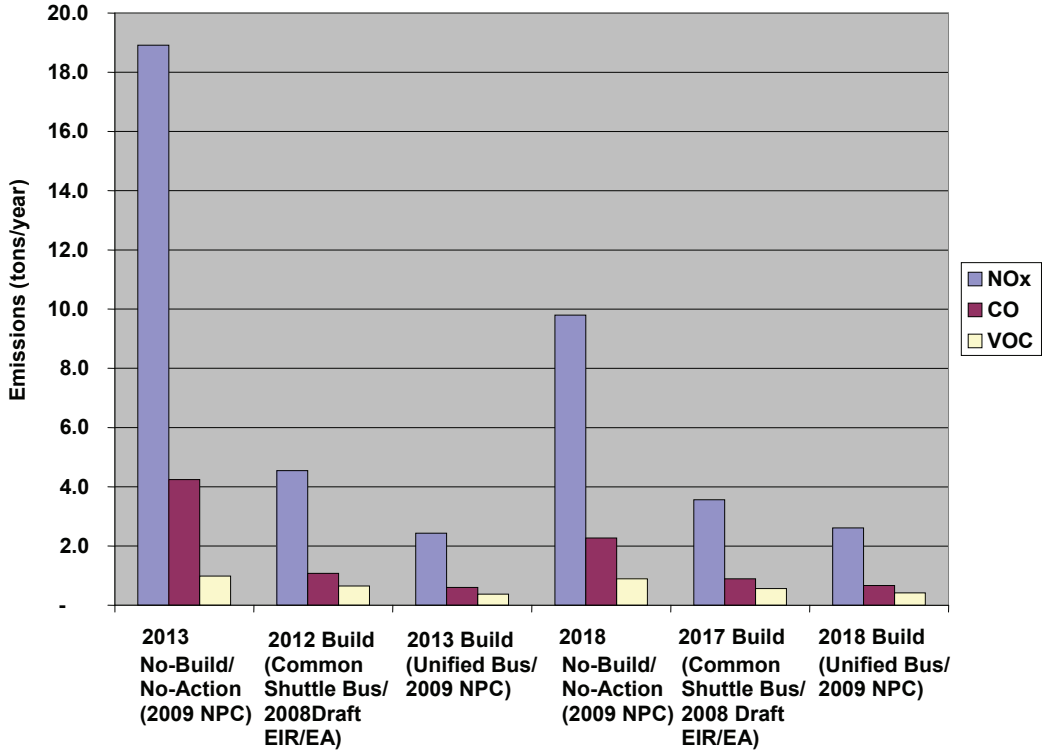
**Table 1-6**
**Unified Bus System Emissions Inventory Results (tons/year)**

| Pollutant | 2013 No- Build/ No-Action (2009 NPC) | 2012 Build (Common Shuttle Bus/ 2008 Draft EIR/EA) | 2013 Build (Unified Bus/ 2009 NPC) | Change (2009 NPC vs. 2008 DEIR/EA) | 2018 No-Build/ No-Action (2009 NPC) | 2017 Build (Common Shuttle Bus/ 2008 Draft EIR/EA) | 2018 Build (Unified Bus/ 2009 NPC) | Change (2009 NPC vs. 2008 DEIR/EA) |
|---|---|---|---|---|---|---|---|---|
| $NO_x$ | 18.9 | 4.54 | 2.43 | -2.12 | 9.80 | 3.55 | 2.60 | -0.95 |
| VOC | 0.98 | 0.65 | 0.37 | -0.27 | 0.89 | 0.56 | 0.42 | -0.14 |
| CO | 4.25 | 1.07 | 0.60 | -0.47 | 2.27 | 0.89 | 0.66 | -0.23 |

Note: The 'change' is the 2009 NPC Program Unified Bus System Build minus the 2008 Draft EIR/EA Common Shuttle Bus.
$NO_x$ = nitrogen oxides, VOC = volatile organic compounds, CO = carbon monoxide

Regardless of low-emitting/alternative fuel-type for the Unified Bus System, air emissions of $NO_x$, VOC, and CO would be reduced by 73, 55, and 71 percent, respectively due to less VMT and a newer/more efficient fleet of buses compared to the individual rental car shuttle buses (the No-Build/No-Action Condition). A reduction of 55 percent is due to lower VMT. The remaining reduction is due to the newer fleet within the Build Condition. More importantly, compared to the previously proposed Common Shuttle Bus of the 2008 Draft EIR/EA, air emissions of $NO_x$, VOC, and CO would be reduced by 24 percent as a result of the reduced VMT associated with the Unified Bus System. Further air emissions reductions are expected through the use of low-emitting/alternative fuels for the Unified Bus System. Graph 1-1 presents a bar chart of the emission reductions.

**Graph 1-1**
**Unified Bus System Emissions Inventory Results (tons/year)**



### SWSA Redevelopment Program Traffic

As a general rule, air emissions associated with the project are a function of the number of vehicles, vehicle types, fuel types, and VMT. Therefore, the expected changes in surface vehicles (i.e., no commercial vehicles; Unified Bus System) traveling to, from and moving about the project site would have a corresponding change in air emissions. Lower VMT both within the SWSA and the adjoining roadway system would result in reduced emissions and lower concentrations of NO, VOC, CO, and $PM_{10/2.5}$ associated with the 2009 NPC Program.

### Bus and Limousine Pools

By retaining the Bus and Limousine Pools within the SWSA, air emissions would be lower due to the reduction in VMT within the roadway network compared to the Bus and Limousine Pools relocated to the NSA for the long-term (which is further away from the airport terminals and not as directly linked to surface roadways), as previously proposed. Specific receptors in the vicinity of the Bus and Limousine Pool could potentially experience slightly higher air concentrations than projected under the 2008 Draft EIR/EA; however, these levels are expected to remain well below the applicable air quality standards. Furthermore, the Bus and Limousine Pools are existing uses within the SWSA and would not increase in air emissions compared to Existing and No-Build/No-Action Conditions.

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### Greenhouse Gas Emissions

As with the program proposed and evaluated in the 2008 Draft EIR/EA, the 2009 NPC Program is expected to generate GHG emissions from both mobile sources (vehicles traveling to/from the site) and stationary sources (building energy use); however, none of the proposed Program changes are anticipated to result in higher GHG emissions than those previously evaluated as part of the 2008 Draft EIR/EA.

As a direct result of the overall reduction in VMT under the 2009 NPC Program resulting from the elimination of commercial parking, the reduced Unified Bus System fleet and system and other Program/site modifications (as discussed above under 'Transportation and Parking'), Greenhouse Gas emissions associated with mobile sources are anticipated to decrease compared to the previously reviewed program. Furthermore, Massport will implement strategies that will improve intersection capacity, traffic safety, traffic flow and progression as well as a Transportation Demand Management (TDM) Plan (in coordination with the rental car companies) in an effort to reduce Program-generated vehicle trips and to minimize peak-period traffic demands in the study area.

Because the conditioned (air conditioned and/or heated) buildings (the CSC and QTAs) remain generally the same in size and function, stationary source GHG emissions associated with energy use for these buildings would not decrease substantially. The energy demand related to lighting of the Garage Structure would be reduced due to the reduced size (by approximately half) of this building. The 2009 NPC Program will continue to be designed to include previously proposed performance standards for energy use (specifically, a 20 percent reduction in overall energy use as required by MA LEED Plus) as well as opportunities for on-site renewable energy.

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## Wind

The proposed reduction in the overall size and height of the Garage Structure as well as shifting the Garage Structure away from the airport property edge and proposed pedestrian walkways and bicycle paths, or congregating areas, is expected to reduce pedestrian level winds.

As estimated under the 2008 Draft EIR/EA program, there may be uncomfortable wind conditions during the winter and spring seasons at the exposed corners of the Garage Structure; however, these are not places of congregation. The 2009 NPC Program continues to incorporate site landscaping and the Phase 2 SWSA Landscape Edge Buffer – both of which would minimize/buffer wind and are especially focused along pedestrian walkways and bike paths.

■

## Noise

As with the 2008 Draft EIR/EA program, there are no significant noise impacts associated with the 2009 NPC Program. The following summarizes the findings of the noise assessment:

- As a result of the proposed reduction in the overall size of the Program and proposed modifications, overall noise is expected to result in fewer impacts to the surrounding community than the previously proposed program.
- Based on the modification to the Garage Structure (location, design and, specifically, reduced height), sound paths from the façade to homes are farther compared to the location of the Garage Structure under the 2008 Draft EIR/EA. As a result of the lower building height and removal of commercial parking from the Garage Structure, previously expected increases of noise levels from single-events, such as car door slams and alarms, from the upper levels are reduced substantially.
- Reduction in overall traffic projected to/from the site (through elimination of commercial parking and the proposed Unified Bus System) would result in reduced noise.
- Noise levels associated with the Bus and Limousine Pools would be comparable to the Existing and No-Build/No-Action Conditions for noise since it currently exists within the SWSA.
- Implementation of noise abatement elements incorporated into design and site landscaping; improvements to QTA facilities ensure that potential noise impacts are mitigated.

### Garage Structure

As previously mentioned, the location of the Garage Structure has been shifted away from the residential area along the eastern end of Maverick Street across from those properties that are currently opposite the existing noise barrier. Also, the height of the Garage Structure has been reduced, which reduces the extent to which sound (specifically, single-event noise) from the upper levels propagate to the community unabated. Based on modifications to the Garage Structure, sound paths from the Garage Structure façade to these homes are significantly farther (ranging from about two to seven times farther depending on the locations of the home and section of Garage Structure) compared to the location of the Garage Structure under the 2008 Draft EIR/EA. As a result, noise levels from single-events, such as car door slams and alarms at the

homes would be reduced by between approximately 7 to 17 decibels (depending on the distance of the homes to the Garage) from those of the previously projected under the 2008 Draft EIR/EA. The paths and distances from the revised Garage Structure are comparable to those from the noise levels from single-events experienced from the existing at-grade car rental facilities and, therefore, acoustical treatments for the Garage Structure are no longer necessary to achieve the 10 decibel reduction, as outlined in the 2008 Draft EIR/EA. Façade screening would continue to be incorporated into the final design of the Garage Structure to the southern and western façades that face the community.

### QTA Facilities

Four QTA facilities will be located between Wellington Street and Jeffries Street. The QTAs will continue to incorporate improvements that result in reduced noise levels relative to the existing facilities, as described above and in the 2008 Draft EIR/EA. Improvements include enclosure of noise-generating equipment and solid walls/fences both of which aim to reduce noise impacts from rental car vehicle maintenance activities on the neighboring residential community.

### Taxi Pool

While noise levels from the proposed Taxi Pool are not projected to increase under the Build Conditions compared to what exists today or under the No-Build/No-Action Conditions, the administrative building has been relocated and reconfigured to along the northwest edge of the Taxi Pool to provide a noise and visual buffer to the adjacent recreation area (ball field).

### Unified Bus System

The proposed Unified Bus System routes introduce slight modifications to airport roadways along the athletic fields of Memorial Park. A landscape buffer will be designed into the new, at-grade roadway to run along the athletic fields in order to reduce any potential noise and/or visual effects.

### SWSA Redevelopment Program Traffic

As presented in the 'Transportation and Parking' section above, projected overall traffic volumes (VMT) are reduced from those proposed in the 2008 Draft EIR/EA. Therefore, on-site traffic noise levels will be lower, in general.

### Bus and Limousine Pools

Under the 2009 NPC Program, the Bus and Limousine Pools will be temporarily relocated to the North Service Area during construction and would then be relocated back to the SWSA east of Jeffries Street (Figure 1.6) upon completion of the ConRAC. Potential noise impacts associated with this use would slightly increase noise from the 2008 Draft EIR/EA since bus and limousine traffic on Tomahawk Drive and Jeffries Street that would have been moved off-site under the prior Build Conditions. However, noise levels associated with this use under the 2009 NPC Program would be comparable to the Existing and No-Build/No-Action Conditions

for noise since it currently exists within the SWSA. Also, overall cumulative noise levels are not expected to increase, because the SWSA traffic is a very small contributor to the overall noise environment in this area, where aircraft flight operations control the cumulative noise exposure.

Under proposed conditions, an additional 6-foot high wall with landscaping will be located on the south edge of the Bus and Limousine Pools (as previously proposed for the QTAs). Both measures will block the view of as well as any noise and/or light coming from the Bus and Limousine Pools and by incoming rental customers along Tomahawk Drive to the nearby Harborwalk.

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## Natural Resources and Drainage

As with the 2008 Draft EIR/EA program, there are no significant impacts to surrounding natural resources or stormwater management at the SWSA associated with the 2009 NPC Program. The 2009 NPC Program incorporates a number of changes that are expected to result in benefits relating to drainage, including:

- Work within the 100-foot Coastal Bank buffer would be reduced to include constructing portions of the extension of Tomahawk Drive and landscaping only (the portions of one of the two proposed QTA service areas east of Jeffries Street are being located west of Jeffries).
- There will be three additional acres of pervious surface area when compared to the Program assessed in the 2008 Draft EIR/EA.
- In close coordination with the BWSC and DEP, the stormwater management plan has progressed and has been designed to meet and/or exceed DEP's *Stormwater Management Policy and Guidelines*. Refer to Attachment D for an overview of the stormwater management approach. This information is in response to DEP's comments on the 2008 Draft EIR/EA.

■

## Water and Wastewater

As with the program proposed and evaluated in the 2008 Draft EIR/EA, there are no significant impacts to water usage or wastewater generation associated with the 2009 NPC Program. As a result of the proposed reduction in the overall size of the Program and proposed modifications, including a better understanding of the CSC uses and tenant needs and two fewer QTA service bays, the total water demand and wastewater generation would be reduced compared to the previously proposed program in the 2008 Draft EIR/EA. Additionally, the 2009 NPC Program will continue to include/implement the previously proposed water and wastewater beneficial measures during design by continuing to meet the requirements of MA LEED Plus and strive to achieve LEED Silver. Performance criteria include:

- A minimum 20 percent reduction in water usage;
- A minimum 50 percent reduction in landscape irrigation; and
- Continuation of reclaiming 75 percent of the car wash water during car maintenance activities.[10]

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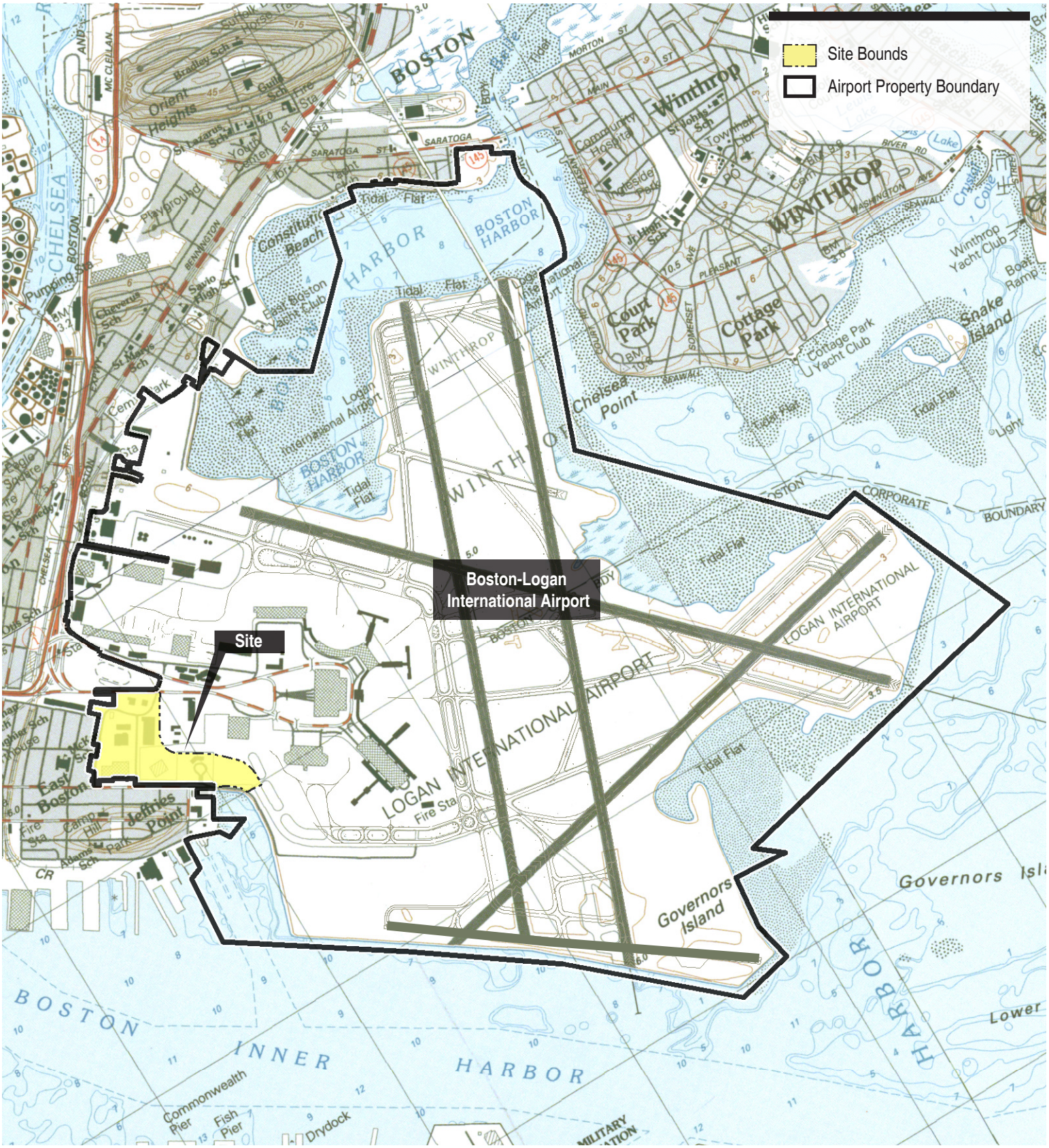
10 These sustainable design and operation measures are assumed in the previous and current water and wastewater projections.

The estimated water usage for the 2009 NPC Program is 88,200 gallons per day (including approximately 4,150 gallons per day for irrigation uses), which represents a decrease of approximately 3,750 gallons per day, or 4.1 percent, from the 2008 Draft EIR/EA water usage estimate. The estimated wastewater generation to be approximately 76,396 gallons per day, which represents an overall decrease of approximately 3,382 gallons per day, or 4.2 percent, from the 2008 Draft EIR/EA Build Conditions (Phase II/Full Build).

## Conclusion

Based on the above assessment comparing the 2008 Draft EIR/EA Program with modified and/or reconfigured elements of the 2009 NPC Program, potential environmental impacts would be reduced and benefits increased under all impact categories. The 2009 NPC Program is consistent with Massport's ongoing goals of creating customer-efficient facilities that will help Massport manage demand in an environmentally responsible manner and reduce impacts on the community. Furthermore, consolidating rental car operations on-airport is consistent with Massport's long established goal of reducing airport-related off-airport activities and reducing the number of re-circulating rental car shuttle buses on airport roads.

The 2009 NPC Program will continue to implement improved environmental management, provide landscaped buffers and new pedestrian connections and bicycle facilities (including the continuation of the Phase 2 SWSA Landscape Edge Buffer), reduce noise, and improve air quality for adjacent neighborhoods. The 2009 NPC Program would achieve environmental benefits through consolidation of the rental car shuttle bus fleet, reduction of terminal curbside congestion, reduction of airport-related traffic on off-airport roadways, and reduction of GHG emissions. The 2009 NPC Program will incorporate sustainable design principles (e.g., complying with the LEED Green Building Rating System).




Note: USGS map dated 1987, updated with new Runway 14-32.

0 1000 2000 4000 8000

graphic scale in feet

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massport

Southwest Service Area
Redevelopment Program
Logan International Airport
East Boston, Massachusetts

Figure 1.1

## Site Location Map

0 1000 2000 4000 8000

graphic scale in feet

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Figure 1.2

## Aerial Image of Site Locus

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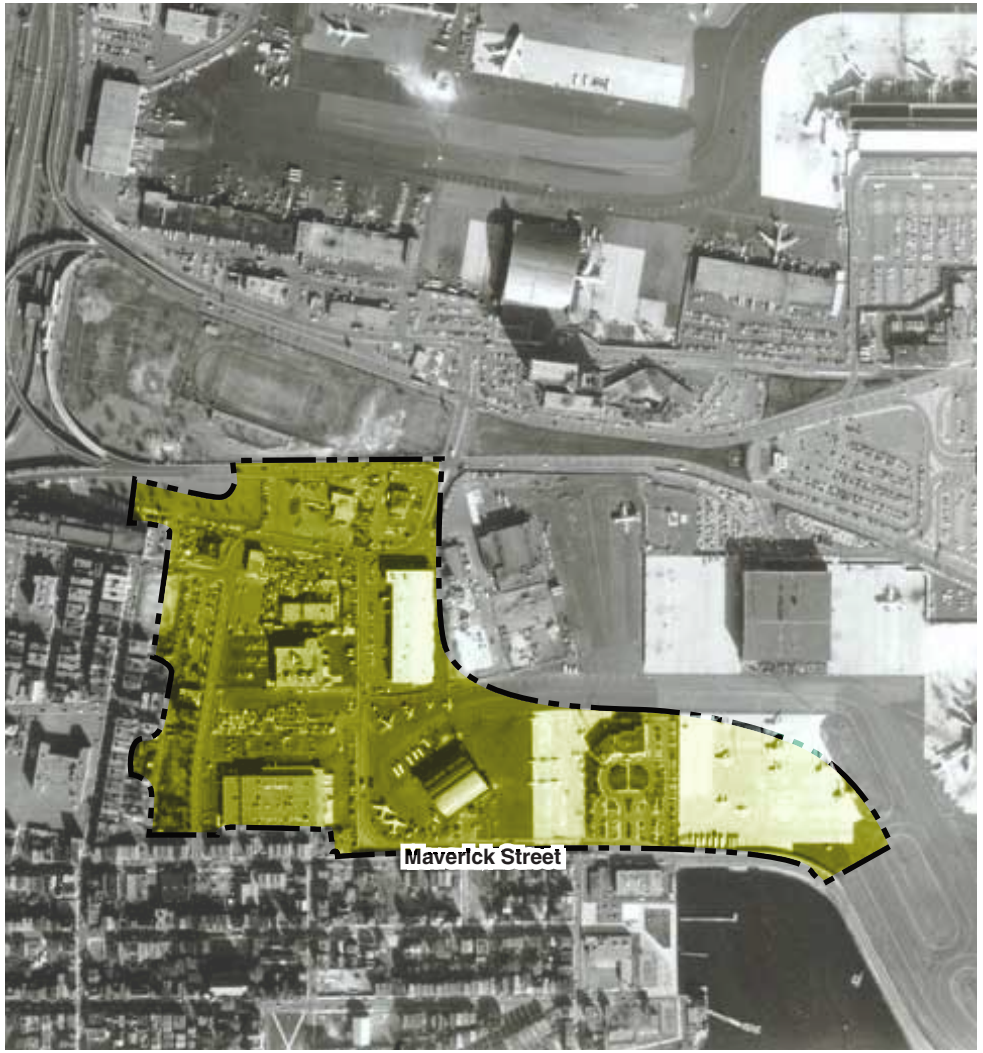
Southwest Service Area
Redevelopment Program
Logan International Airport
East Boston, Massachusetts

## PROJECT VICINITY—1972

## PROJECT VICINITY—1975




Site Bounds

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graphic scale in feet

massport

Southwest Service Area
Redevelopment Program

Logan International Airport
East Boston, Massachusetts

PGAL | PB
planning collaborative
VHB Vanasse Hangen Brustlin, Inc.

Figure 1.3

# Historic Site Photographs

0 150 300 600 1200

graphic scale in feet

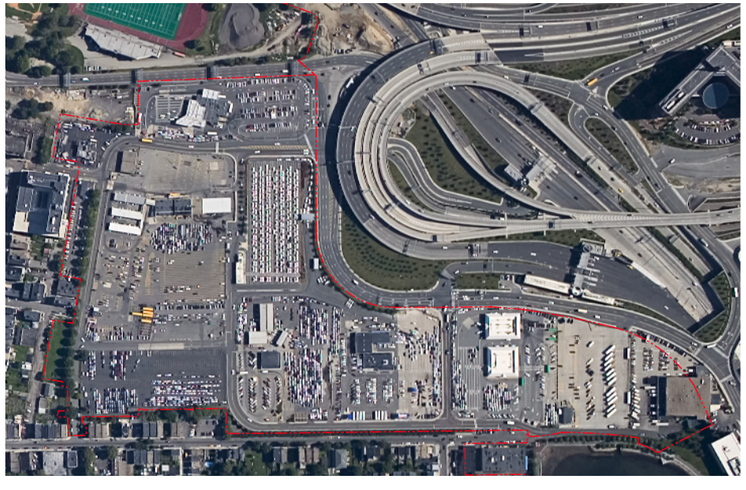
massport

Southwest Service Area
Redevelopment Program
Logan International Airport
East Boston, Massachusetts

PGAL | PB planning collaborative
VHB Vanasse Hangen Brustlin, Inc.

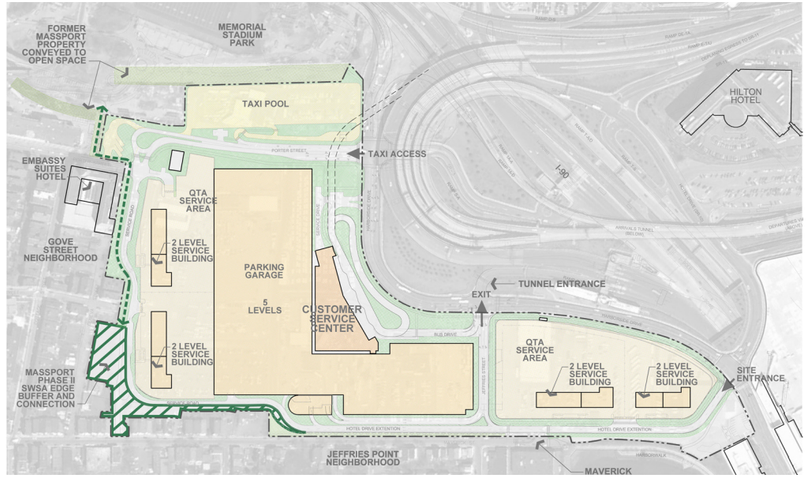
Figure 1.4

## Aerial Image of the SWSA



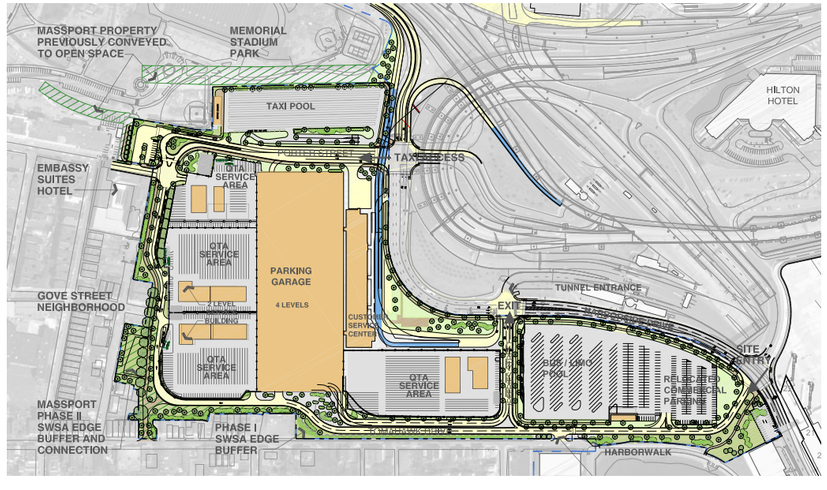
**EXISTING SWSA SITE CONDITIONS**

| Component & Description | Building Footprint (square feet) | Number of Spaces |
|---|---|---|
| **On-Airport Rental Car Companies** | +114,920 sf | +3,515 spaces |
| **Quick Turnaround Areas** | 0 | 0 |
| **Long-Term Commercial Over Flow Parking** | NA | 420 spaces |
| **Other Facilities:**<br>Taxi Pool<br>Limousine Pool/Bus Pool<br>Flight Kitchen | <br>3,100 sf<br>1,950 sf<br>36,000 sf | <br>310 spaces<br>138 spaces<br>85 spaces |
| **Pervious Area (Landscape)** | 1.6 Acres | |




**JUNE 2008 DRAFT EIR/EA SITE PLAN (FULL BUILD)**

| Component & Description | Building Size (gross square feet) | Number of Spaces |
|---|---|---|
| **On-Airport Rental Car Companies:**<br>Garage<br>CSC | <br>2.5 Million gsf<br>114,000 gsf | <br>4,600 spaces<br>NA |
| **Quick Turnaround Areas** | 115,000 gsf | 1,700 spaces |
| **Relocated Commercial Parking** | NA | Up to 3,000 spaces |
| **Other Facilities:**<br>Taxi Pool<br>Limousine Pool/Bus Pool<br>Flight Kitchen | <br>3,100 gsf<br>0<br>0 | <br>330 spaces<br>0 spaces<br>0 spaces |
| **Pervious Area (Landscape)** | 4.6 acres | Includes SWSA Landscape Edge Buffer & Other Site Landscaping |




**SEPTEMBER 2009 NPC PROPOSED SITE PLAN (FULL BUILD)**

| Component & Description | Building Size (gross square feet) | Number of Spaces |
|---|---|---|
| **On-Airport Rental Car Companies:**<br>Garage<br>CSC | <br>1.2 Million gsf<br>113,000 gsf | <br>3,120 spaces<br>NA |
| **Quick Turnaround Areas** | 112,000 gsf | 1,250 spaces |
| **Long-Term Commercial Over Flow Parking** | NA | 420 spaces |
| **Other Facilities:**<br>Taxi Pool<br>Limousine Pool/Bus Pool<br>Flight Kitchen | <br>3,100 gsf<br>2,500 gsf<br>0 | <br>310 spaces<br>370 spaces<br>0 spaces |
| **Pervious Area (Landscape)** | 7.7 acres | Includes SWSA Landscape Edge Buffer & Other Site Landscaping |

graphic scale in feet

massport

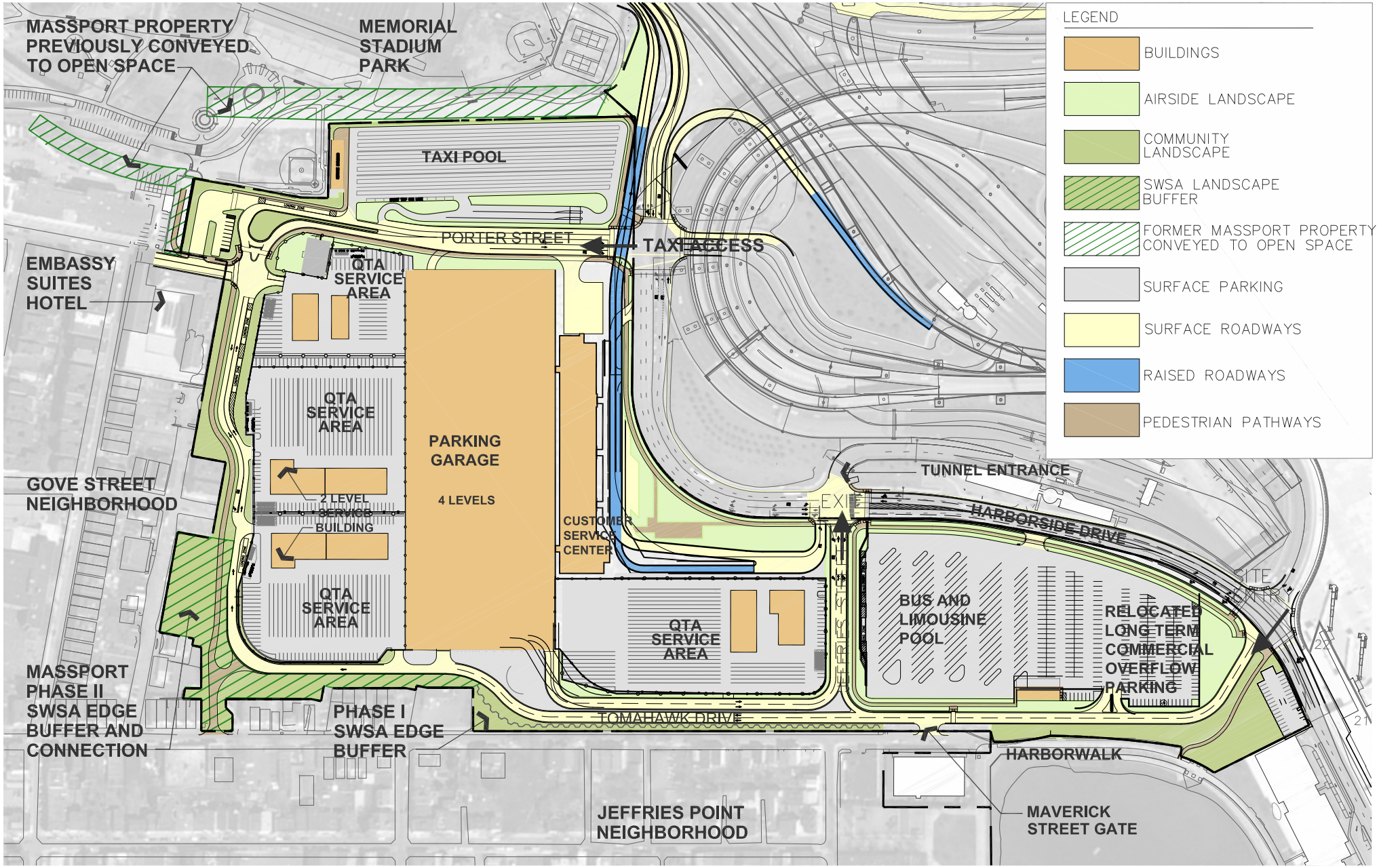
Southwest Service Area
Redevelopment Program
Logan International Airport
East Boston, Massachusetts

N

PGAL | PB
planning collaborative

Figure 1.5

# EXISTING CONDITIONS
# PREVIOUSLY PROPOSED SITE PLAN
# REVISED SITE PLAN




0 150 300 600 1200

graphic scale in feet

N

Southwest Service Area Redevelopment Program

Logan International Airport
East Boston, Massachusetts

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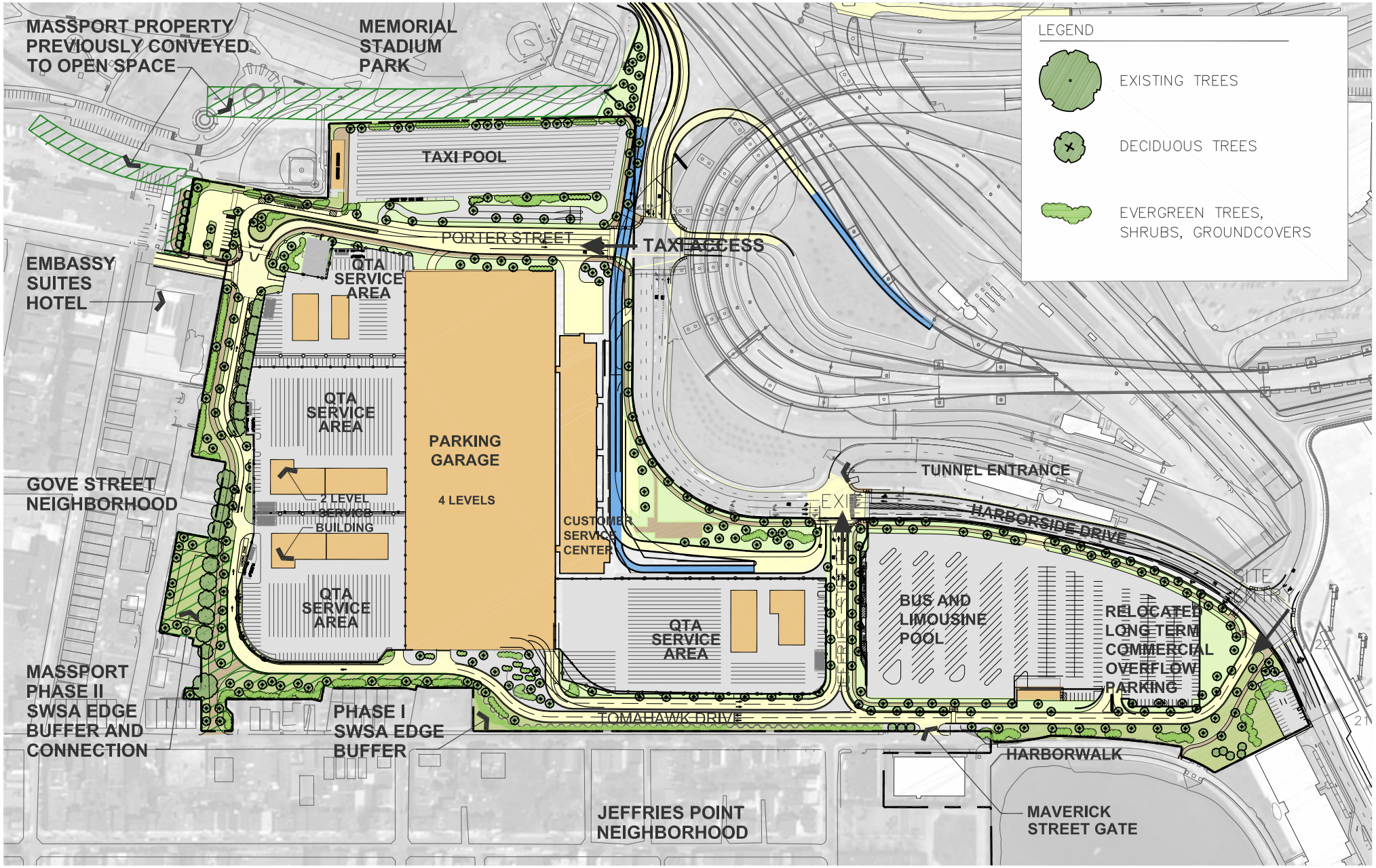
Figure 1.6

# PROPOSED CONDITIONS




0 150 300 600 1200

graphic scale in feet

September 18 2009

Figure 1.7

# PROPOSED SITE LANDSCAPE PLAN

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East Boston, Massachusetts

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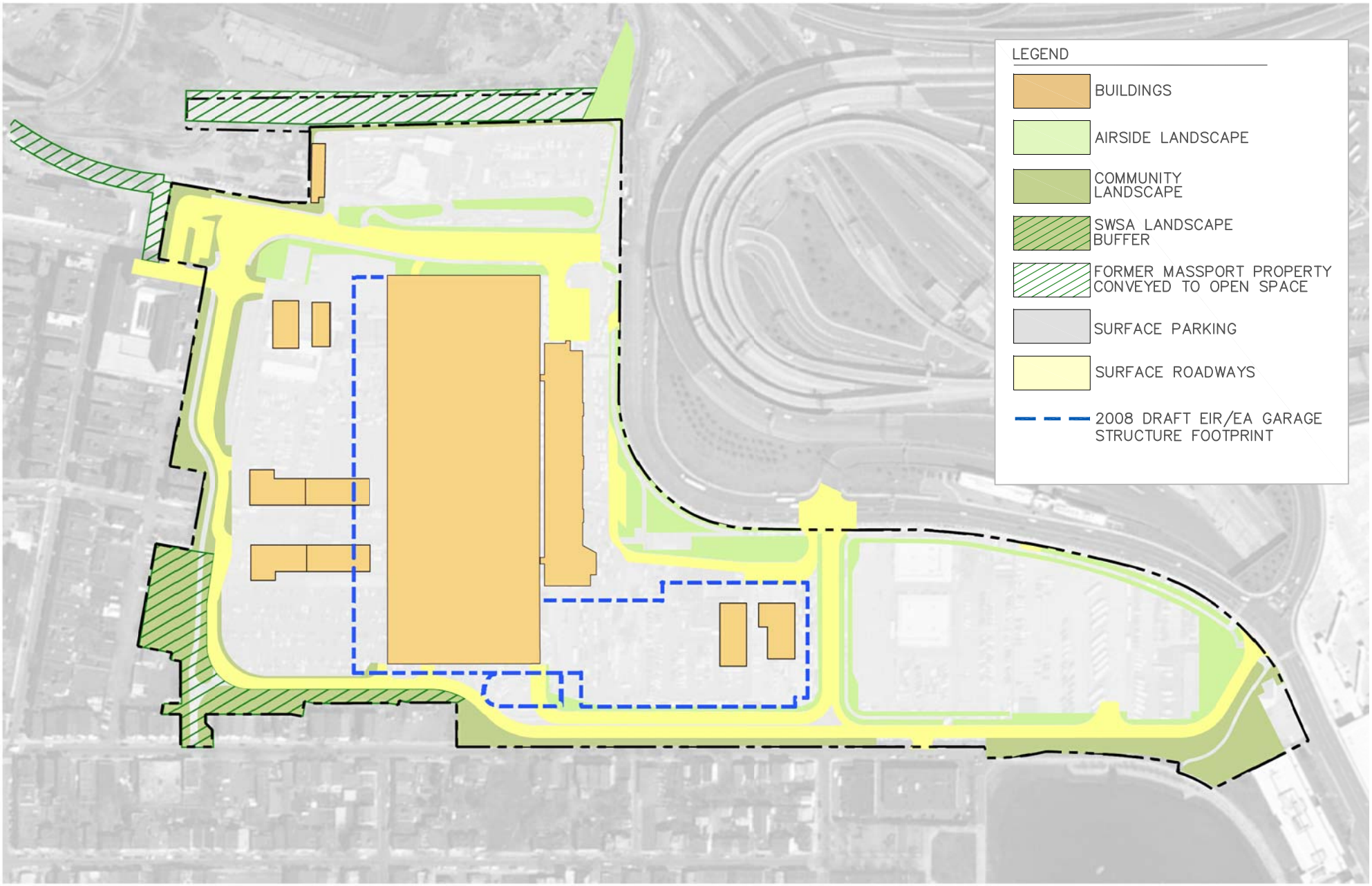


0 150 300 600 1200

graphic scale in feet

N

massport

Southwest Service Area Redevelopment Program

Logan International Airport
East Boston, Massachusetts

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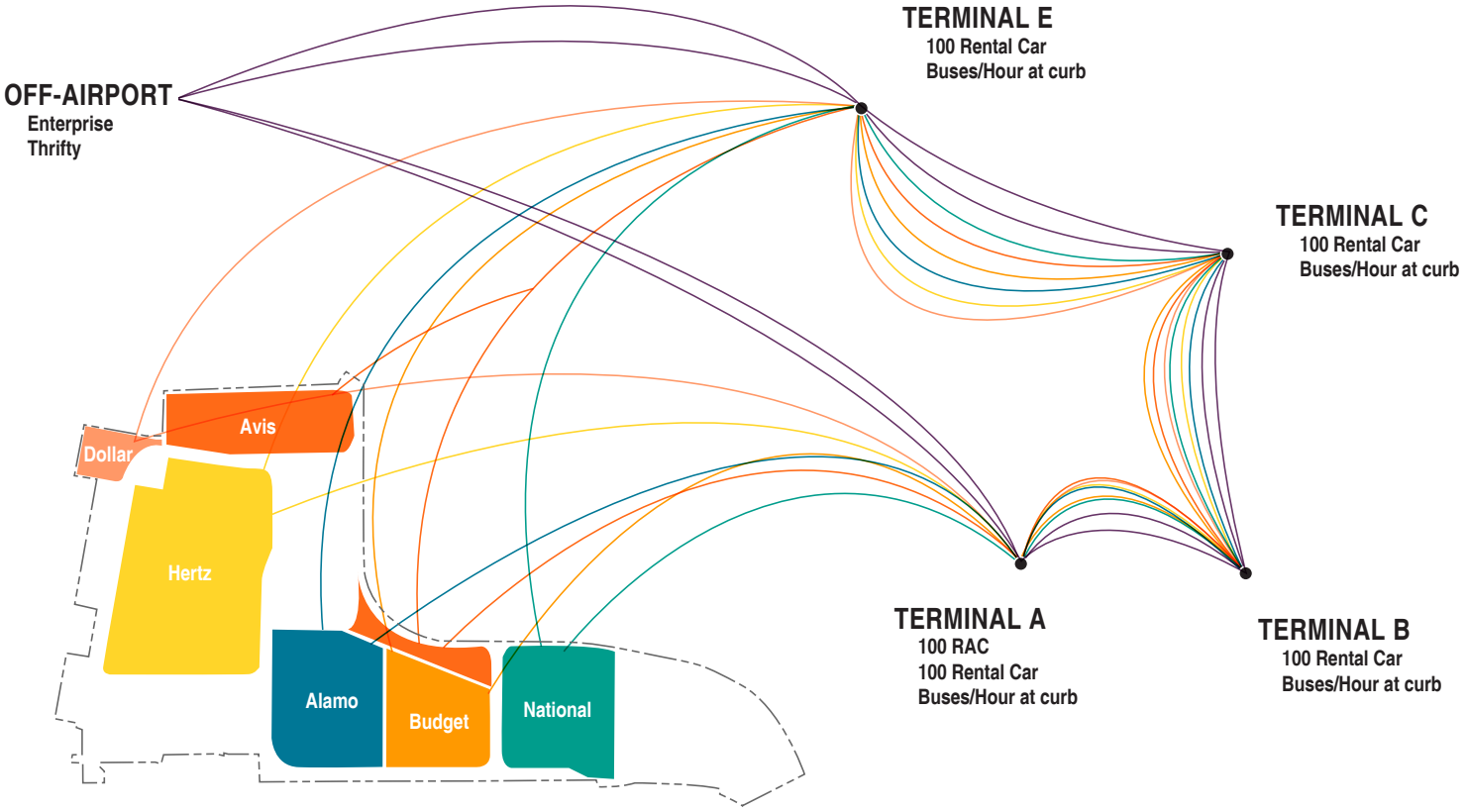
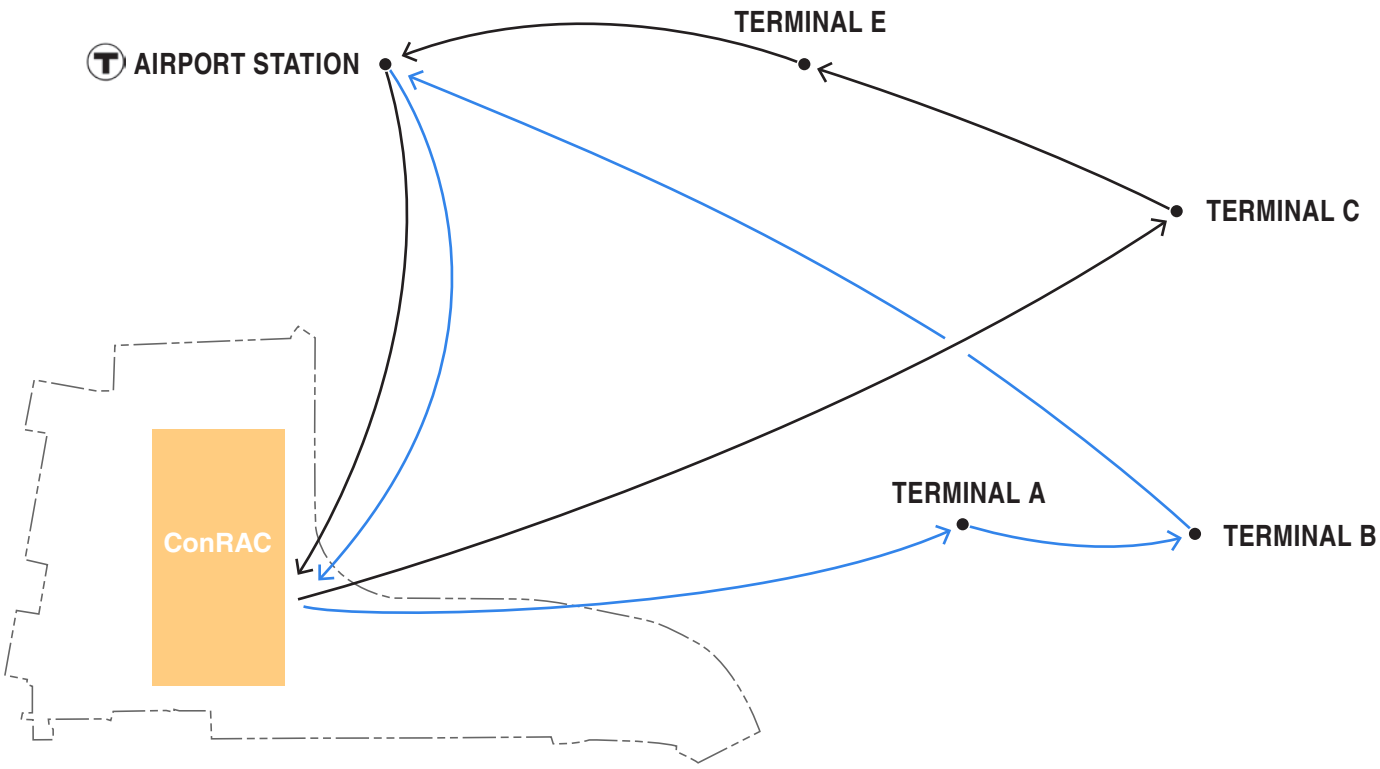
Figure 1.8

# PRIMARY CHANGES TO GARAGE

## EXISTING CAR RENTAL OPERATIONS SCHEMATIC - A




## PROPOSED CAR RENTAL OPERATIONS SCHEMATIC - B




NOTE: Routes service both arrival and departure levels of terminals.

0 not to scale

graphic scale in feet

massport

Southwest Service Area
Redevelopment Program
Logan International Airport
East Boston, Massachusetts

N

Figure 1.9

# Existing and Proposed Car Rental Operations Schematics

# 2

# Summary of Beneficial Measures

## Introduction

Massport's approach to environmental management and compliance is a key component of Logan Airport's sustainability commitment. Through monitoring and documentation, environmental performance is assessed, allowing policies and programs to be developed, implemented, evaluated, and continually improved.

Massport supports the Commonwealth's sustainable initiatives, including the recent Executive Order (EO) 484 promulgated by Governor Patrick in April 2007. Executive Order 484 establishes the Leading by Example Program as a way to oversee and coordinate sustainable efforts by state agencies and encourage private sector developers to implement sustainable practices. The 2009 SWSA Redevelopment Program supports many of the key initiatives of EO 484, including reducing/mitigating for Greenhouse Gas emissions, promoting energy conservation and the use of renewable energy and waste reduction. Additionally, Massport has and will continue to utilize the Leadership in Energy and Environmental Design (LEED®) Green Building Rating System to guide the design, construction and operation of the 2009 NPC Program. Massport is committed to meeting the requirements of the MA LEED Plus program (established by the Commonwealth's Executive Office for Administration and Finance) and will strive to achieve a LEED Silver rating for the SWSA Redevelopment Program.

## SWSA Redevelopment Program Beneficial Measures

Table 2-1 below provides a comprehensive summary of the environmentally beneficial design measures Massport plans in connection with the SWSA Redevelopment Program. The anticipated implementation schedule and milestones for each of the design measures is also described. By including these environmentally beneficial design measures in the SWSA Redevelopment Program there will be no adverse long term environmental impacts to the airport or the surrounding community when compared to the existing and no-build conditions. All mitigation and/or beneficial measures previously presented in the 2008 Draft EIR/EA have been incorporated into the 2009 NPC Program.

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## Table 2-1
## SWSA Redevelopment Program Beneficial Measures

| Mitigation/Beneficial Measure | Responsible Party | Implementation Schedule | | |
|---|---|---|---|---|
| | | Design | Construction | Opening |
| **Sustainable Planning and Design** | | | | |
| – Meet the requirements of the MA LEED Plus program and strive to achieve a LEED Silver rating. | Massport & Contractor & RACs | X | | X |
| **Site Design** | | | | |
| – Set back the Garage Structure from the airport property line (approximately 410 feet to 560 feet from the airport west property line) to reduce visual impacts | Massport | X | | |
| *Stormwater Management* | | | | |
| – Improve quality of runoff by upgrading stormwater management facilities site-wide though upgraded facilities, utilization of Low Impact Design elements, and replacing uncovered parking areas with buildings and landscaped (pervious) area. | Massport | | X | |
| – Design new sanitary and drainage systems to result in an overall reduction in combined sewer overflow volumes at the Porter Street Outfall and eliminate discharge to Maverick Street Outfall and Bird Island Flats/West Outfall. | Massport | | X | |
| *Remediation and Underground Fuel Storage Systems* | | | | |
| – Replace surface parking areas with a covered parking (Garage Structure); thereby, reducing runoff from parking lots, along with incidental hydrocarbon loadings. | Massport | X | | |
| – Remove all existing car rental fueling systems and associated tanks and replace with current, state-of-the-art vehicle fueling and washing facilities. | Contractor | | X | |
| – During construction, the soil and groundwater environmental issues surrounding the existing rental car operations would be addressed in compliance with the Massachusetts Contingency Plan (MCP). | Contractor | | X | |
| – Develop a Soil Management Plan and submit to the DEP prior to construction for the AUL areas. | Contractor/LSP | | X | |
| *Irrigation Water Efficiency* | | | | |
| – Reduce potable water use for irrigation by a minimum of 50 percent (as required by MA LEED Plus) and strive for zero potable water use through landscape design (low-water demand and/or native/adaptive species), efficient irrigation equipment and/or stormwater reuse. | Massport | X | | |
| *Noise Reduction Measures* | | | | |
| – Eliminate individual rental car shuttle buses and combine Massport Airport Station buses (routes 22/33/55) through the Unified Bus System; thereby, reducing the overall number of rental car-related buses circulating on-airport and associated noise. | Massport | | X | |
| – Relocate rental car shuttle bus traffic farther from the airport property edge and the community opposite side of Garage Structure and CSC; thereby, eliminating and/or reducing noise associated with bus traffic and bus back-up alarms. | Massport | X | | |

## Table 2-1
## SWSA Redevelopment Program Beneficial Measures

| Mitigation/Beneficial Measure | Responsible Party | Implementation Schedule | | |
|---|---|---|---|---|
| | | Design | Construction | Opening |
| *Noise Reduction Measures (continued)* | | | | |
| – Incorporate noise reduction strategies into site design, such as solid fences/walls, gateway signs/walls, and landscaped berms. | Massport | | X | |
| *Phase 2 SWSA Landscape Edge Buffer and Other Site Landscaping* | | | | |
| – Complete the SWSA Landscape Edge Buffer (Phase 2). | Massport | | X | |
| – Construct other site landscaping that encourages walking/biking by providing safe and welcoming corridors, reduces environmental impact (water efficient; reduce and filter runoff), and screens the SWSA from neighboring properties. | Massport | | X | |
| **Building Design** | | | | |
| *Energy Efficiency* | | | | |
| – Provide openness to optimize daylight and ventilation within the Garage Structure (building code classification for an "open parking structure") to allow for natural ventilation. | Massport | X | | |
| – Reduce energy consumption by a minimum of 20 percent (as required by MA LEED Plus) by properly sizing building mechanical systems and incorporating high performance/energy efficient mechanical and electrical building systems, such as highly-reflective (high-albedo) roofing materials, reduced lighting intensities, high-efficient heating and cooling systems, and daylighting techniques with window and skylight glazing. | Massport | X | | |
| – Reduce overall electricity consumption by 2.5 percent through the use of solar and/or wind power (which contributes to the overall 20 percent energy efficiency performance criteria above). | Massport | X | | |
| – Conduct a third-party commissioning process to ensure the effectiveness of building systems (as required by MA LEED Plus). | Contractor | | X | |
| *Water Efficiency and Wastewater Reduction* | | | | |
| – Reduce water use demand by a minimum of 20 percent (as required by MA LEED Plus) and to strive for a 30 percent reduction through utilization of high-efficient/ low-flow plumbing fixtures and car wash water reclamation systems. | Massport | X | | |
| – Reduce water use demand and wastewater generation by reclaiming and reusing approximately 75 percent of car washing water. | Massport/RACs | | | X |
| – Potential collection of and reuse of stormwater runoff for irrigating landscaped areas. | Massport/RACs | X | | |
| *Noise Reduction Measures* | | | | |
| Improve the Quick Turnaround Areas (QTAs), including the elimination of outdoor loudspeakers, elimination of car drying blowers through state-of-the-art equipment, enclosed vacuum compressors, and incorporation of six to eight-foot high solid walls/fences designed to further reduce noise from activities at the | Massport/RACs | X | | |

## Table 2-1
## SWSA Redevelopment Program Beneficial Measures

| Mitigation/Beneficial Measure | Responsible Party | Implementation Schedule | | |
|---|---|---|---|---|
| | | Design | Construction | Opening |
| *Noise Reduction Measures (continued)* | | | | |
| QTA facilities, including car washing and vehicle movements. | | X | | |
| *Visual/Architectural Treatments* | | | | |
| — Design buildings to be responsive to neighborhood context and address visual impacts. | Massport | X | | |
| — Design criteria for the Garage Structure has been developed to eliminate the need for ventilation systems, control noise, and minimize light spill and emissions. | Massport | X | | |
| — Design site and building lighting with cut-off features to avoid light spill off-site. | Massport | X | | |
| *Indoor Environmental Quality* | | | | |
| — Provide fixed entryway systems that capture dirt and other particles from entering the buildings. | Massport | X | | |
| — Provide for individual control of lighting and/or thermal conditions in all occupied spaces to improve the comfort of occupants. | Massport | X | | |
| — Provide separate ventilation systems/drains for the storage of hazardous chemicals. | Massport | X | | |
| — Specify low-VOC emitting building materials, including adhesives, paints, sealants, coatings, carpets, and other products, as feasible/applicable. | Massport & RACs | X | | |
| — Provide natural daylight for a more inviting/healthy indoor environment. | Massport | X | | |
| *Building Materials* | | | | |
| — Favor building materials that are non-toxic, maximize recycled content, and made with low embodied energy. | Massport & RACs | X | | |
| **Transportation and Parking** | | | | |
| *Roadway Improvements* | | | | |
| — Reconstruct Porter Street, including turnaround for exiting taxis. | Massport | | X | |
| — Reconfigure SR-14 and new alignment of Ramp 1A-S. | Massport | | X | |
| — Construct new dedicated Unified Bus System access and ramp off of SR-14. | Massport | | X | |
| — Reconstruct traffic signals and pedestrian accommodations at the Harborside Drive/Porter Street intersection. | Massport | | X | |
| — Reconstruct, widen and convert Jeffries Street to one-way northbound, between Harborside Drive and Hotel Drive Extension. | Massport | | X | |
| — Reconstruct traffic signals and pedestrian accommodations at the Harborside Drive/Jeffries Street intersection. | Massport | | X | |

**Table 2-1**
**SWSA Redevelopment Program Beneficial Measures**

| Mitigation/Beneficial Measure | Responsible Party | Implementation Schedule | | |
|---|---|---|---|---|
| | | Design | Construction | Opening |
| *Roadway Improvements (continued)* | | | | |
| – Construct the extension of Tomahawk Drive –a one-way westbound roadway connecting Harborside Drive with the Maverick Street Gate and Garage Structure. | Massport | | X | |
| – Reconstruct traffic signals and pedestrian accommodations at the Harborside Drive/Hotel Drive intersection. | Massport | | X | |
| – Reconfigure inbound lane of the Maverick Street Gate to provide additional queue storage. | Massport | | X | |
| *Airport Transportation System Improvements* | | | | |
| – Reduce the rental car shuttle bus fleet by approximately 70 percent (94 vehicles reduced to 28 vehicles) through the creation of the Unified Bus System resulting in an approximately 70 percent reduction in VMT and associated fuel use (a savings of over 407,000 gallons per year of fuel) and, therefore, a reduction in emissions when compared to the 2007 Existing Condition. | Massport | | | X |
| – Reduce rental car shuttle bus terminal curbside congestion by approximately 80 percent (90 trips per hour reduced to 15 trips per hour) through the creation of the Unified Bus System resulting in reduced emissions. | Massport | | | X |
| – Utilize clean- and low-emission fuel for the Unified Bus System to further reduce emissions. | Massport | | | X |
| – Install efficiency improvements, Intelligent Transportation System features, as part of the Unified Bus System to further reduce emissions. | Massport | | X | |
| – Improve/create new wayfinding signage to increase the efficiency of the circulating vehicles within and around the SWSA. | Massport | | X | |
| *Pedestrian and Bicycle Facilities* | | | | |
| – Provide new pedestrian and bicycle facilities, including secure and covered bicycle storage at CSC and QTA buildings for employees, customers and the general public, as well as shower/changing facilities within the QTA buildings for employees. | Massport | X | | |
| – Provide enhanced pedestrian connections to and from the SWSA, airport terminals, the Logan Office Center, Memorial Stadium Park, Bremen Street Park, the Harborwalk, on-airport buses, public transit (MBTA Airport Station), the Taxi Pool, and surrounding East Boston neighborhoods. | Massport | X | | |
| – Provide street and pedestrian-level lighting and advanced warning signals and/or systems at crosswalks. | Massport | X | | |
| *Transportation Demand Management (TDM) Plan* | | | | |
| – Provide no Massport employee parking and limited SWSA employee parking (up to 30 spaces total) on-site. | Massport | X | | |
| – Provide new access to public transit through the Unified Bus System (direct connection to MBTA Blue Line at Airport Station) and new/enhanced pedestrian facilities at the station. | Massport | X | | X |
| – Require rental car companies to participate in the Logan Transportation Management Association (TMA). | Massport | | | X |

## Table 2-1
## SWSA Redevelopment Program Beneficial Measures

| Mitigation/Beneficial Measure | Responsible Party | Implementation Schedule | | |
|---|---|---|---|---|
| | | Design | Construction | Opening |
| *Transportation Demand Management (TDM) Plan (continued)* | | | | |
| – Provide ATMs on-site. | Massport | | X | |
| – The location of the facility provides good pedestrian and bicycle access to local eateries and services in the adjacent neighborhoods. Free bus services to the terminals will reach a variety of concessions and services. | Massport | | | X |
| *Alternative Vehicles* | | | | |
| – As presented under 'Rental Car Company-Related Environmental Commitments' below, the rental car companies would provide fuel-efficient and/or alternative-fueled rental vehicles (quantity to be determined by the rental car companies). | RACs | | | X |
| – The current design guidelines for the Garage Structure include infrastructure necessary to accommodate future demands for electric plug-in stations, such as conduit and electrical capacity, and other alternative fuel sources such as E-85 stations. | Massport | X | | |
| *Off-Airport Improvements/Benefits* | | | | |
| – Reconstruct Frankfort Street/Lovell Street intersection will provide a new traffic signal control and pedestrian-related improvements (for temporary impacts of the relocation of the Bus and Limousine Pools to the NSA during construction). | Massport | | X | |
| – Reduce the amount of off-airport car shuttling to and from off-airport locations, further reducing traffic on Route 1A and local roadways surrounding the airport due to the consolidated and expanded rental car "ready/return" parking spaces and QTA areas at the SWSA. | RACs | | | X |
| **Construction Management** | | | | |
| – Divert/reduce construction waste to landfills by 75 percent (target up to 90 percent). | Contractor | | X | |
| – Implement Erosion and Sedimentation Control Program. | Contractor | | X | |
| – Retrofit diesel construction equipment with diesel oxidation catalyst and/or particulate filters (in accordance with the DEP Clean Air Construction Initiative). | Contractor | | X | |
| – Construction worker vehicle coordination and trip limitation, including requiring contractors to provide off-airport parking and use of high-occupancy vehicle transportation modes for employees. | Contractor | | X | |
| – Select high efficiency "temporary" space heating/cooling systems. | Contractor | | X | |
| – Conduct building systems commissioning, including a rigorous evaluation of mechanical systems in the design process and at installation to ensure consistency with program requirements and design intent and to verify proper function and to facilitate the expected performance. | Contractor | | X | X |

**Table 2-1**
**SWSA Redevelopment Program Beneficial Measures**

| Mitigation/Beneficial Measure | Responsible Party | Implementation Schedule | | |
|---|---|---|---|---|
| | | Design | Construction | Opening |
| **Construction Management (continued)** | | | | |
| – Remediate subsurface contamination encountered during tank removals or other excavation activities, as necessary. | Contractor/LSP | | X | |
| – Implement Indoor Air Quality (IAQ) Management Plan during construction. | Contractor | | X | |
| – Voluntary compliance with the requirements of City of Boston noise ordinances, including restrictions on the types of equipment that can be used, and limitations on the hours when certain activities can take place. | Contractor | | X | |
| **Operations** | | | | |
| – Preferred dispatching for energy-efficient or hybrid taxis leaving the Taxi Pool (as requested by customers). | Massport | | | X |
| – Conduct monthly and quarterly stormwater sampling | Massport | | | X |
| – Verify intended efficiency of designed energy conservation measures through continuous collection of operational data and actions to optimize equipment performance. | Massport/RACs | | | X |
| – Institute a goal of 50 percent reduction in operational waste by implementing a recycling program. | Massport/RACs | | | X |
| – Implement innovative sustainable measures, including an environmental educational display describing the sustainable design measures associated with the Program. | Massport/RACs | | | X |
| **Rental Car Company-Related Environmental Commitments** | | | | |
| – Provide fuel-efficient and/or alternative-fueled rental vehicles (quantity to be determined by RACs). | RACs | | | X |

# 3

# Proposed Scope for the Final Environmental Impact Report/Environmental Assessment

## Introduction

Following an extended 82-day public comment period, the Certificate on the 2008 Draft EIR/EA was issued by the Secretary of the Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs (EEA) on October 10, 2008. A copy of the Secretary's Certificate on the Draft EIR/EA dated October 10, 2008 is provided as Attachment C. Massport respectfully requests the Secretary to adopt the recommendations set forth in this section in issuing a Certificate on the NPC for the Final EIR/EA. This section presents a proposal for a revised scope for the Final EIR/EA, for consideration and possible adoption by the EEA Secretary. The proposed scope modifications are intended to address the relevant changes to the SWSA Redevelopment Program. If this proposed scope is adopted by the EEA Secretary, the Final EIR/EA will follow Section 11.07 of the MEPA regulations for outline and content, as modified by this proposed scope, and the Secretary's Certificate.

## Proposed Scope for the Final EIR/EA

| | |
|---|---|
| PROJECT NAME | SOUTHWEST SERVICE AREA REDEVELOPMENT PROGRAM AT BOSTON-LOGAN INTERNATIONAL AIRPORT |
| PROJECT MUNICIPALITY | EAST BOSTON, MASSACHUSETTS |
| EEA NUMBER | 14137 |
| PROJECT PROPONENT | MASSACHUSETTS PORT AUTHORITY (MASSPORT) |

Massport respectfully submits the following proposed amended Scope for the Final Environmental Impact Report (EIR)/Environmental Assessment (EA) for the Southwest Service Area Redevelopment Program at Boston-Logan International Airport. The Final EIR/EA will serve as a joint state and federal filing.

### Project Description, Permitting, and Consistency

The Southwest Service Area (SWSA) is currently the center of commercial ground transportation operations at Logan International Airport. Currently, the SWSA supports a variety of essential ground transportation

services and facilities, including the taxi pool, seven separate rental car businesses, and a bus/limousine pool as well as a flight kitchen. As described in its annual Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) for the airport dating back to 1993, Massport has a goal of making the SWSA more efficient through the development of a consolidated rental car facility (the "ConRAC") in a structure that would house rental car activities and a customer service center (CSC). Massport proposes to construct a four-level garage with consolidated car rental facilities, roadway and intersection improvements, and other related facilities in the SWSA (the "SWSA Redevelopment Program").

The Final EIR/EA will include a summary of the project and local, state and federal permits or agency actions required or potentially required, and will demonstrate that the project will meet applicable requirements. The project background/history, including the status of the MEPA/NEPA review, will also be included in the Final EIR/EA.

The SWSA Redevelopment Program will be placed in context of the most recent Logan Airport Environmental Data Report (EDR). Consistency with airport planning and passenger activity level forecasts will be demonstrated. The Final EIR/EA will explain how the SWSA Redevelopment Program is consistent with applicable regional and state plans and policies, including the *MEPA Greenhouse Gas Emissions Policy and Protocol* (see below).

The Final EIR/EA will provide a description of the SWSA Redevelopment Program in sufficient detail to demonstrate that the SWSA Redevelopment Program has been designed to avoid or minimize overall environmental impacts. Massport's incorporation of sustainable elements in the SWSA Redevelopment Program's design and construction will be described in detail as well as proposed landscape design, including the Phase 2 SWSA Landscape Edge Buffer and bicycle and pedestrian facilities.

### Analysis Conditions for Potential Environmental Impacts

Since the filing of the 2008 Draft EIR/EA, the revised construction schedule indicates a date of beneficial occupancy (DBO) for the facility of 2013. This change shifts the required future planning horizons to 2013 and 2018, from the 2012 and 2017 planning horizons used in the 2008 Draft EIR/EA.

Since 2007, Logan Airport has experienced a reduction in passenger levels. Examination of air passenger statistics and rental car transactions since 2007 indicates that passenger levels have dropped by approximately 11.5 percent. Passenger forecasts for the revised program were lowered to account for this reduction in air passengers. The growth projections of the revised program assume recovery to 2007 passenger levels by 2013, followed by 2.3 percent annual increases between 2013 and 2018. The net increase for 2018 would be 12 percent over 2007 levels, as compared to the 25.5 percent increase in 2017 previously projected by the 2008 Draft EIR/EA.

The following conditions will be analyzed:

- **2007 Existing Condition:** This represents the level of air passenger activity in 2007.
- **2013 Date of Occupancy:** 2013 is the anticipated date of occupancy for the SWSA Redevelopment Program. The No-Build Alternative and Preferred Alternative will be analyzed under the forecasted 2013 conditions. Passenger numbers will be consistent with projections generated by Massport and the aviation industry.

- **2018 Future Condition:** 2018 is five years after the anticipated date of occupancy (2013) for the SWSA Redevelopment Program. The No-Build Alternative and Preferred Alternative will be analyzed under the forecasted 2018 conditions. Passenger numbers will be consistent with projections generated by Massport and the aviation industry.

### Sustainability

As part of the Greenhouse Gas (GHG) emissions assessment and the Section 61 Findings/Mitigation Summary (both described further below), the Final EIR/EA will describe how the SWSA Redevelopment Program plans to support the following key initiatives of Executive Order 484 in order to minimize the SWSA Redevelopment Program's impact on the environment and human health:

- Reduce greenhouse gas emissions;
- Incorporate energy and water conservation measures into the SWSA Redevelopment Program; and
- Meet the MA LEED-Plus sustainable design rating system as well as strive to achieve a LEED Silver rating. The Final EIR/EA will include a draft LEED green building rating checklist.

As the SWSA Redevelopment Program design progresses, the Final EIR/EA will report on the sustainable design measures that are evaluated and/or incorporated.

### Greenhouse Gas Emissions

The Final EIR/EA will include a revised GHG emissions assessment (of both stationary source and mobile source emissions), in accordance with the *MEPA Greenhouse Gas Emissions Policy and Protocol*. Greenhouse Gases include several air pollutants, such as carbon dioxide ($CO_2$), methane, hydrofluorocarbons, and perfluorocarbons. The MEPA policy calls for the evaluation of $CO_2$ because it is the predominant contributor to global warming and $CO_2$ emissions can be reasonably calculated.

The GHG assessment will quantify energy use and $CO_2$ emissions from project's mobile and direct and indirect stationary sources. The GHG assessment will expand upon the sustainability goals and performance criteria of the SWSA Redevelopment Program as they relate to GHG emissions and quantify GHG benefits of stated sustainable design measures/improvements. The mobile source GHG emissions assessment will calculate annual GHG emissions based upon changes in traffic (volumes, delays, and speeds) and emission factor data. The stationary source GHG emissions assessment will take a performance target approach by utilizing the MA LEED Plus requirement for energy reduction (a minimum of 20 percent) as the Build Condition calculation with a discussion of the potential mitigation measures that demonstrate the feasibility of achieving the 20 percent energy reduction target. Specifically, in accordance with the Secretary's Certificate on the 2008 Draft EIR/EA (dated October 10, 2008) and subsequent consultation with the MEPA Office, the following will be included:

- Evaluation of energy use required for water supply and wastewater treatment and presentation of proposed measures to reduce the GHG emissions associated with these activities; and
- Discussion and assessment of materials management (recycling) program for the design, construction and future operations of the facility as it relates to GHG emissions.

**Transportation and Parking**

The transportation and parking impact analysis for the SWSA Redevelopment Program will be revised to compare the 2007 Existing Conditions and 2013 and 2018 No-Build and Preferred Alternative conditions.

The traffic analysis of the SWSA Redevelopment Program will include the following sections:

- Discussion of analysis methodologies, study area, and assumptions
- An analysis of average and peak traffic within and in the vicinity of the SWSA. The following locations will be included in the traffic study area:
  - Harborside Drive and SR-14 at Porter Street & Ramp 1A-S
  - Harborside Drive at Jeffries Street
  - Harborside Drive at Hotel Drive
  - Porter Street at Wellington Road
  - Jeffries Street at Tomahawk Drive
  - Hotel Drive at SR-11 and Ted Williams Tunnel Off-Ramp
  - Hotel Drive at Ramp D-S
  - Hotel Drive at SR-2
  - SR-2 at SR-14 and Cottage Street
  - Frankfort Street at Lovell Street
  - Route 1A at Boardman Street
- Evaluation and comparison between 2007 Existing Conditions, 2013 and 2018 No-Build and 2013 and 2018 Preferred Alternative conditions for the following:
  - Intersection and roadway operations
  - Taxi, bus, and limousine operations
  - Curbside activity at both the CSC and the airport terminals
  - Pedestrian access
  - Bicycle access

The Final EIR/EA will include an updated operations discussion, including: description of rental car parking access and egress routes with plans in sufficient detail to show access/egress controls; Unified Bus System drop-off, pick-up and circulation.

The Final EIR/EA will discuss the effect of the SWSA Redevelopment Program, in particular the proposed Unified Bus System operations, on the calculation of overall airport vehicle miles traveled (VMT). Details of the proposed bus routing, dwell times, travel times and required frequency will be documented.

The Final EIR/EA will consider the off-airport traffic effect of the SWSA Redevelopment Program on the surrounding communities of East Boston, Chelsea, and Revere. Pedestrian and bicycle circulation, rental car shuttling activity, and potential increased vehicle traffic will also be evaluated.

Mitigation measures designed to reduce the potential impact of the projected traffic associated with the SWSA Redevelopment Program to local, airport, and regional roadway infrastructure will also be identified and evaluated in the Final EIR/EA.

The Final EIR/EA will reaffirm Massport's Transportation Demand Management strategy, including a goal to minimize employee reliance on single occupancy vehicles. Participation in the Logan Transportation Management Association, connections to the MBTA Blue Line Airport Station and Silver Line, and other appropriate mitigation measures will also be discussed.

### Air Quality

The air quality analysis for the SWSA Redevelopment Program will be revised to compare the 2013 and 2018 No-Build/No-Action and Future Build Conditions. Analysis will include:

- Emissions inventory estimating the proposed project's generation of carbon monoxide (CO), nitrogen oxides (NOx), and volatile organic compounds (VOCs) within the project study area and the external roadway network (consistent with the proposed traffic study area mentioned above). The emissions inventory will be based upon:
  - Emission factors using U.S. EPA MOBILE6.2 emissions model with MDEP-specific input parameters, motor vehicle fleet mix, average vehicle speeds, and vehicle type; and
  - Project-specific traffic volumes, dwell times, and the vehicle-miles-traveled (VMT) will also be used.

From these results, a Clean Air Act (CAA) General Conformity Rule "Applicability" Assessment will also be conducted.

- A revised dispersion analysis to predict CO and particulate matter (PM) concentrations surrounding the SWSA will be based on the following:
  - Emissions rates developed from emissions inventory;
  - Latest version of the U.S. EPA AERMOD dispersion model;
  - Logan-specific meteorological data for a five-year period;
  - Peak-hour traffic volumes; and
  - Receptor locations placed throughout the SWSA and in the adjoining neighborhoods.

From these results, compliance with Ambient Air Quality Standards will be evaluated.

Hot-spot analysis to assess CO concentrations at project-related intersections (up to five) will be based on the following:

- Emissions rates developed from emissions inventory;
- Latest version of the U.S. EPA CAL3QHC dispersion model;
- "Worst-case" meteorological data;

- Peak-hour traffic volumes;
- Signalized intersection data such as red time, intersection layout, and queue length; and
- Receptor locations placed along roadway according to U.S. EPA guidance.

Mitigation measures designed to reduce the potential impact to both regional and local air quality will also be identified and evaluated in the Final EIR/EA, including the quantification of further reductions in air emissions due to low-emission/alternative fuels for the Unified Bus System.

### Construction Period Impacts

The construction analysis presented in the Final EIR/EA will include an updated description of each phase of construction, including truck routes, staging areas, labor, and equipment levels, soil remediation and duration, and other short-term impacts. The cumulative impacts from the projects planned or under construction at the Airport will be described along with how these construction efforts will be coordinated.

**Construction Traffic**
The traffic impacts due to construction activities associated with the project will be evaluated including:

- The estimated number of average daily round-trip truck trips that would be required (by quarter) throughout the entire construction process.
- The estimated number of round-trip truck trips formerly developed in support of other planned and ongoing projects in the area.
- The presence of construction-related vehicles (trucks or other heavy equipment) on the airport's roadway system.
- Deployment of temporary on-street roadway staging and detours as a result of ongoing construction (if any).
- The effect of any temporary facility relocations, including the Taxi Pool and Bus and Limousine Pools, and any rental car company facilities, as required as part of the construction phasing plan.

**Construction Air Quality**
The air quality impacts due to construction activities associated with the SWSA Redevelopment Program will be evaluated based on the following:

- A revised emissions inventory using the latest version of the U.S. EPA NONROAD Emissions Model combined with estimates of construction equipment utilization, by quarter.
- A revised CAA General Conformity Rule "Applicability" Assessment.
- A revised qualitative assessment of mitigation measures for nuisance dust and traffic congestion.
- Massport's participation in the Clean Air Construction Initiatives or other mitigation measures with comparable benefits will be described.

**Construction Noise**
The noise impacts due to construction activities associated with the project will be evaluated including:

- A revised assessment of noise impacts related to the ongoing construction of the proposed project.
- The quantity and type of heavy construction equipment used in the conduct of the project.
- A detailed estimate of pile driving activities (if any).

- The total number of truck trips to and from the SWSA.

### Federal Consistency

Because of the Federal Aviation Administration's (FAA) approval of the Airport Layout Plan and possible federal financing assistance, the SWSA Redevelopment Program entails a federal action and triggers the applicability of the National Environmental Policy Act (NEPA) of 1969, as amended. The FAA determined that the proposed SWSA Redevelopment Program requires the preparation of an Environmental Assessment (EA). An EA presents information about a project specifically required by NEPA, the Council on Environmental Quality (CEQ), and the FAA. Once signed by the FAA, the EA is officially adopted, and the FAA will use it to determine whether to make a Finding of No Significant Impact (FONSI). For the EA, the FAA is the lead federal agency and the Federal Highway Administration (FHWA) is a Cooperating Agency.[1] The 2008 Draft EIR/EA was prepared by Massport with the supervision and guidance of the FAA, and was presented to the FAA and FHWA for review, comment, and adoption. Likewise, the Final EIR/EA will be prepared in cooperation with the FAA and FHWA. The Final EIR/EA will present information concerning the SWSA Redevelopment Program, in compliance with NEPA, the NEPA Regulations of the CEQ and the NEPA requirements of the FAA.

### Beneficial Measures/Draft Section 61 Findings

The Final EIR/EA will include a stand-alone summary of all mitigation measures and environmentally beneficial design measures and sustainable design elements included in the revised SWSA Redevelopment Program. These design measures will be further documented in a revised proposed Section 61 Finding, in accordance with 301 CMR 11.07(6)(k). The proposed Section 6 1 Finding will identify the parties responsible for implementing the mitigation and set forth a proposed schedule for implementation based on the construction phases of the SWSA Redevelopment Program.

### Responses to Comments

The Final EIR/EA will include copies of all comment letters received on the 2008 Draft EIR/EA and on the 2009 NPC, and respond to those comments to the extent that they are within MEPA jurisdiction.

### Distribution

In accordance with Section 11.16 of the MEPA regulations, the Final EIR/EA will be circulated to those parties submitting comments on the ENF, or 2008 Draft EIR/EA and the 2009 NPC, and to those state agencies from which permits, approvals, or funding will be sought. Copies will be made available to Massport's standard MEPA mailing list (refer to Attachment A of this NPC). Copies will also be provided to City of Boston Library branches (refer to Attachment A for the NPC distribution list) for public review.

As the Secretary has recommended previously for other projects, to save paper and other resources, Massport will circulate the Final EIR/EA in CD-ROM format and will make a reasonable number of paper copies available to accommodate those without convenient access to a computer.

1 An agency having expertise on an environmental issue or jurisdiction by law may be a cooperating agency in the NEPA process. A cooperating agency has the responsibility to assist the lead agency by participating in the NEPA process including reviewing portions of the environmental assessment which the cooperating agency has special expertise.

# Attachment A
# Notice of Project Change Distribution List

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# Notice of Project Change Distribution List

In accordance with Section 11.16 of the MEPA regulations at 301 CMR 11.00, the Massachusetts Port Authority (Massport) is distributing this NPC to the following state and local agencies and interested parties.

This document will be noticed in the *Environmental Monitor* published on or about **October 26, 2009** commencing the 30-day public review period (an extension of the required 20-day public review period at the request of the Proponent). Therefore, comments on the NPC are due by **November 26, 2009**. To request a copy of this document, please contact Tom Ennis at 617-568-1090 or via e-mail at tennis@massport.com.

C = CD-ROM sent
P = Printed version sent

■

## Federal Government

### U.S. Senators and Representatives

C U.S. Representative Ed Markey
188 Concord Street , Suite 102
Framingham, MA 01702

C U.S. Representative Michael E. Capuano
110 First Street
Cambridge, MA 02141

C U.S. Senator Paul G. Kirk, Jr.
188 Russell Senate Office Building
Washington, DC 20510

### U.S. Environmental Protection Agency

P EPA New England (Region 1)
Attention: NPDES Permit Division
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Boston, MA 02114

P Elizabeth Higgins Congram, Regional Administration
U.S. Environmental Protection Agency
New England Region (Region 1)
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P Ralph Nacosia-Rusin, Manager Environmental Programs
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## Federal Highway Administration

P Damaris Santiago, Environmental Engineer
FHWA Massachusetts Division
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■

## State Government

## Massachusetts Senate/House of Representatives

C Senate President Therese Murray
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Boston, MA 02133

C Senator Steven Baddour
Massachusetts State House, Room 513
Boston, MA 02133

C Senator John A. Hart
Massachusetts State House, Room 109C
Boston, MA 02133

C Senator Anthony Petruccelli
Massachusetts State House, Room 413B
Boston, MA 02133

C Speaker Robert DeLeo
Massachusetts State House, Room 356
Boston, MA 02133

C Representative Joseph C. Wagner
Massachusetts State House, Room 134
Boston, MA 02133

C Representative Martha Walz
Massachusetts State House, Room 443
Boston, MA 02133

C Representative Kathi-Anne Reinstein
Massachusetts State House, Room 167
Boston, MA 02133

C Representative Eugene L. O'Flaherty
Massachusetts State House, Room 136
Boston, MA 02133

C Representative Brian Wallace
Massachusetts State House, Room 472
Boston, MA 02133

C Representative Carlo Basile
Massachusetts State House Room 39
Boston, MA 02133

C Representative Byron Rushing
Massachusetts State House, Room 481
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## Massachusetts Executive Office of Energy and Environmental Affairs

P Secretary Ian A. Bowles (submitted herein)
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Environmental Affairs
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P Executive Office of Energy and
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Undersecretary for Policy
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C Department of Environmental Protection
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## Massachusetts Executive Office of Health and Human Services

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Executive Office of Health and Human Services
Department of Public Health
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C Massachusetts Highway Department
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c William Francis Galvin,Chair
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The MA Archives Building
220 Morrissey Boulevard
Boston, MA 02125

## Massachusetts Water Resource Authority

c Massachusetts Water Resource Authority
Attn: Marianne Connolly
Program Manager, Regulatory Compliance
100 First Avenue
Charlestown Navy Yard
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■

## City of Boston

## Boston Office of the Mayor

c Thomas Menino, Mayor
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P Boston Public Library-Orient Heights
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P Boston Public Library-East Boston
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P Revere Public Library
179 Beach Street
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P Chelsea Public Library
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P Winthrop Public Library
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P State Transportation Library Public Review
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■

## Community Groups and Interested Parties

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C Mary Berninger
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C Melissa Tyler
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P Joanne and Peter Cardinale
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C Susan Parker Brauner
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C Bendetta Hines
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C Pedro Morales
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C Olga Frechon
Principal
East Boston Early Education Center
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East Boston, MA 02128

P Commodore
Jeffries Yacht Club
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C Pat Capogreco
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C Allyson Gray
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## Organizations and Other Interested Parties

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- Valerie Burns, Director
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- Richard Kennelly, Jr.
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- Wig Zamore
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- Logan Health Study CAC (DPH)
  Logan Airport CAC (Noise Study)
  MBTA Rider Oversight Committee

- MAPC MetroFuture Steering Committee
  Somerville Transportation Equity Partnership
  Mystic View Task Force (of Somerville)
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C Scott A Pflueger
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C Barbara Mathey
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C Wampanoag Tribe of Gay Head (Aquinnah)
Bettina Washington, Acting Tribal Historic
Preservation Officer
20 Black Brook Road
Aquinnah, MA 02535-1546

# Attachment B
# List of Project Terms and Acronyms

■

**List of Project Terms and Acronyms**

| Term | Definition |
|---|---|
| APU | Auxiliary Power Unit |
| AVL | Automatic Vehicle Location - a GPS-based vehicle tracking system. |
| Alternate or Alternative Fuel | Examples are CNG, hydrogen, electricity, bio-diesel, or other fuel determined to be "substantially not petroleum" that emits low levels of noxious greenhouse gases. |
| AVI | Automated Vehicle Identification, which monitors vehicle speeds to calculate travel times. Vehicles equipped with AVI transponders are used to determine travel times between fixed points as the vehicles move across a roadway network. |
| CAA | Federal Clean Air Act |
| CEQ | Council on Environmental Quality |
| CNG | Compressed Natural Gas |
| Conformity Determination | Federal assessment that a proposed project, if implemented, would be consistent with an approved State Implementation Plan (SIP), under the Clean Air Act. |
| ConRAC | Consolidated Rental Car Facility |
| CSC | Customer Service Center - Receiving and retail area within ConRAC used by both the RAC tenants for retailing and transacting with their customers as well as Massport for customer services and conveniences. |
| Current Need | What would be required today to operate efficiently, knowing that the current SWSA does not provide adequate area for current operations. |
| CZM | Coastal Zone Management |
| DEIR | Draft Environmental Impact Report |
| DEP | Massachusetts Department of Environmental Protection |
| DNL | Day-Night Average Sound Level |
| EA | Environmental Assessment [National Environmental Policy Act] |
| EIR | Environmental Impact Report [Massachusetts Environmental Policy Act] |
| ENF | Environmental Notification Form [Massachusetts Environmental Policy Act] |
| EEA | Executive Office of Energy and Environmental Affairs (formerly Executive Office of Environmental Affairs, or EOEA) |
| EPA | United States Environmental Protection Agency |
| ERP | Environmental Results Program of MA DEP |
| ESPR | Environmental Status and Planning Report |
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Agency |
| FONSI | Finding of No Significant Impact |
| Greenhouse Gas (GHG) | Gases that contribute to the atmospheric greenhouse effect and global warming. The 'greenhouse effect' is the heating of the surface of earth due to the presence of an atmosphere containing gases that trap heat within the surface-troposphere system. |
| HOV | High occupancy vehicle |
| ITS | Intelligent Transportation System |
| LEED | Leadership in Energy and Environmental Design (LEED) Green Building Rating System – a nationally accepted benchmark for the design, construction, and operation of high performance green buildings developed and maintained by the U.S. Green Building Council. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water conservation, energy efficiency, materials selection, and indoor environmental air quality. |

**List of Project Terms and Acronyms**

| Term | Definition |
|---|---|
| LOS | Level of Service - Qualitative and quantitative measure of how well or how poorly an intersection or roadway performs |
| MBTA | Massachusetts Bay Transportation Authority |
| MCP | Massachusetts Contingency Plan |
| MEPA | Massachusetts Environmental Policy Act |
| NEPA | National Environmental Policy Act |
| NPC | Notice of Project Change |
| NOx | Nitrogen Oxide - product of combustion engines, a precursor to Ozone ($O_3$), and a gas that contributes to the greenhouse effect. |
| NSA | North Service Area |
| QTA | Quick Turn Around Area – the area where an individual RAC Company will fuel, clean (wash and vacuum) and service (topping of engine fluids and light maintenance) a vehicle for the next renting customer. |
| RAC | Rental Car Companies |
| Ready Spaces | Vehicle storage for customer pick-up |
| Ready/Return Spaces | Vehicle storage that can be utilized for both "ready" vehicles for customer pick-up and "return" vehicles for customer drop-off. Sized for a peak daily operation, calculated in a "ready stall" count for planning purposes. |
| Renewable Energy | Energy sources such as wind, solar, geothermal, and hydro-electric, and hydrogen energy that can provide electricity without producing environmentally undesirable by-products. |
| RTN | Release Tracking Number under the MA Contingency Plan |
| SIP | State Implementation Plan – federally approved and enforceable plan for each State which identifies how that State will attain and/or maintain the primary and secondary National Ambient Air Quality Standards (NAAQS) set forth in Section 109 of the Clean Air Act (CAA) and 40 Code of Federal Regulations 50.4 through 50.12. |
| Sustainable Design | Sustainable design seeks to reduce negative impacts on the environment, and the health and comfort of building occupants. The basic objectives of sustainability are to reduce consumption of non-renewable resources, minimize waste, and create healthy, productive environments. |
| SWSA | Southwest Service Area |
| TMA | Transportation Management Association |
| Transaction Days | Number of days a car is rented by a customer. |
| Vehicle Storage | Area designated for storage of parked cars. |
| VMT | Vehicle Miles Traveled |

# Attachment C
# October 10, 2008 Draft EIR/EA Certificate

■

# The Commonwealth of Massachusetts

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October 10, 2008

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT

| | |
|---|---|
| PROJECT NAME | : Southwest Service Area Redevelopment Program at Boston-Logan International Airport |
| PROJECT MUNICIPALITY | : Boston |
| PROJECT WATERSHED | : Boston Harbor |
| EEA NUMBER | : 14137 |
| PROJECT PROPONENT | : Massachusetts Port Authority |
| DATE NOTICED IN MONITOR | : July 9, 2008 |

As Secretary of Energy and Environmental Affairs, I hereby determine that the Draft Environmental Impact Report (DEIR) submitted on this project **adequately and properly complies** with the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and with its implementing regulations (301 CMR 11.00). The proponent may prepare and submit for review a Final Environmental Impact Report (FEIR). This Certificate outlines the issues pertaining to the project presented in the DEIR.

Project Description

As described in the DEIR, the proponent, the Massachusetts Port Authority (Massport), is proposing a two-phase project to redevelop the Southwest Service Area (SWSA) at Logan International Airport. The SWSA is presently occupied by the taxi pool, a bus/limousine pool, a flight kitchen and six rental car businesses. A seventh car rental agency will soon relocate to the airport with an eighth moving once the project is operational.

The total 2.7 million gross feet (gsf) project, now at five percent design, is construction of

a five-level, 50-foot +/- high garage to house car rental facilities and up to 3,000 commercial parking spaces. The project will include 270,000 square feet (sf) of space for a car rental customer service center (CSC) and maintenance and storage areas for rental car operations, which are referred to as quick turnaround areas (QTAs), which provide fueling, car washing and cleaning facilities, and vehicle storage. The DEIR also describes as part of the project a shared shuttle bus system, rather than the existing eight individual shuttles, a reconfigured taxi pool, roadway and intersection improvements, site access improvements, landscaped buffers, and new pedestrian and bicycle facilities. To accommodate the project, the taxi pool and limousine pool will be relocated (the taxi pool will be increased) to the north of Porter Street within the SWSA. The flight kitchen and bus pool will be moved to another area on the airport. Bicycle access and parking will be provided. Vehicle trips per day (VTD) will increase by about 7,570 from about 24,180 to 31,750.

MEPA Background

In its annual (EEA #3247) Environmental Status and Planning Reports (ESPRs) and Environmental Data Reports (EDRs) for the airport dating back to 1993, Massport has contemplated making the SWSA more efficient through the development of enhanced transportation facilities, including a consolidated rental car facility (the "ConRAC") and commercial parking. Data reported shows that the project should prove to have significant positive environmental impacts. However, at the same time, I have received comments which have expressed concerns with the impacts upon the existing transportation infrastructure, air quality issues, and impacts of massing upon adjacent neighborhoods. To facilitate development of an FEIR that adequately avoids, minimizes and mitigates impacts to environmental resources, I expect the proponent will continue to work closely with the state and city agencies and authorities, as well as neighbors and neighborhood organizations that have provided detailed comments on the DEIR.

MEPA Jurisdiction and Permitting Requirements

The project is undergoing review and subject to the preparation of a mandatory EIR pursuant to section 11.03 (6)(a)(6) and section 11.03 (6)(a)(7) of the MEPA regulations, because the project involves the generation of 3,000 or more new additional trips on roadways providing access to a single location and the construction of more than 1,000 new parking spaces at a single location. Because the proponent is an Authority of the Commonwealth, MEPA jurisdiction extends to all aspects of the project that may cause significant Damage to the Environment as defined in the MEPA regulations.

The project will require an Order of Conditions from the Boston Conservation Commission for work within the buffer zone to wetlands resources (if the local Order were appealed, the project would require a Superseding Order from the Department of Environmental Protection (MassDEP)). I note that as of January 12, 2007, a certification statement with

MassDEP is required for new sewer connections where flows exceed 15,000 gallons per day (gpd) and are less than 50,000 gpd. Because the wastewater flow from the project is estimated to be less than 50,000 gpd, the proponent does not require a sewer extension/connection permit from MassDEP. However, the Massachusetts Water Resources Authority (MWRA) has indicated that a MWRA Sewer Use Discharge Permit will be required for wastewater discharges to the sanitary sewer system. Currently, Logan International Airport holds a USEPA-NPDES General Permit for its construction activities. For the SWSA Redevelopment Project, Massport must comply with Logan International Airport's USEPA-NPDES General Permit for Stormwater Discharges from its construction activities.

Coordinated MEPA/FAA/NEPA Review

In addition to the EIR requirement, the project is undergoing review pursuant to the Federal Aviation Administration (FAA) and the National Environmental Policy Act (NEPA) in an Environmental Assessment (EA). Both NEPA and MEPA regulations allow (and encourage) the preparation of joint EIR/EA documents. As noted at the outset of this review process, I believe coordinated review is a good government practice, both in terms of allowing for maximum public and agency understanding of the project and to ensure that review by regulatory agencies is as efficient as possible. I hereby authorize and encourage the preparation of a joint Final EIR/Final EA for the proposed project.

## Review of the DEIR and Scope of FEIR

I am allowing the proponent to proceed to the preparation of an FEIR; however I note the requests by commenters for additional information and clarification to assist State agencies with future permitting processes. I have received numerous comments on the project from both project supporters and project opponents. While I appreciate the thoughtful comments submitted by all of the commenters, MEPA is not a zoning process, nor is it a permitting process. Rather, it is a process designed to ensure public participation in the state environmental permitting process, to ensure that state permitting agencies have adequate information on which to base their permit decisions and their Section 61 Findings[1] and to ensure that potential environmental impacts are avoided, minimized, and mitigated to the maximum feasible extent. The FEIR should therefore be responsive to the Scope set forth below, and as referenced above, I expect that the proponent will continue to work closely with agencies and the public on other aspects of the project outside this Scope.

I anticipate that the FEIR will respond to the scope outlined below with sufficient detail

1 In accordance with M.G.L. c. 30, section 61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR shall determine whether the Project is likely, directly or indirectly, to cause any Damage to the Environment and make a finding describing the Damage to the Environment and confirming that all feasible measures have been taken to avoid or minimize the Damage to the Environment.

to satisfy State agencies. I retain my authority to require further review issues outlined in this Scope and in comments in the form of a Supplemental Final Environmental Impact Report if those issues are not thoroughly addressed in the FEIR. The FEIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this Certificate.

Project Description & Regulatory Environment

The FEIR should include a detailed description of the project with a summary/history of the project. It should provide an existing and a proposed site plan. The FEIR should repeat the description of each state agency action required for the project that is contained in the DEIR and include any updates. It should show that the project is consistent with the applicable performance standards. The FEIR should contain sufficient information to allow the permitting agencies to understand the environmental consequences related to the project.

Response to Comments

In order to ensure that the issues raised by commenters are addressed, the FEIR should include a response to comments. I recommend an indexed response to comments approach, although I will defer the final choice of format to the proponent. This directive is not intended to, and shall not be construed to, enlarge the scope of the EIR beyond what has been expressly identified in the initial scoping certificate or this certificate.

Alternatives

The proponent has filed this project with MEPA early in the design process and has committed to continue public meetings to address issues such as parking and traffic circulation, building architecture, and buffer and streetscape design.

The Preferred Alternative presented in the DEIR combines a ConRAC facility and commercial parking into one five-level structure. The ConRAC is limited to the lower three levels. Commercial parking would be located on two levels above the ConRAC and would share the common shuttle bus for access to and from the Terminals. The DEIR proposes that to keep common shuttle bus traffic away from the airport property edges along the community and closer to the airport roadway network and within the SWSA to reduce community impacts. The Preferred Alternative proposes a five-level combined/consolidated garage for both activities. The combined structure increases operational efficiencies and has less visual impact to the nearby community.

In addition to the proponent's Preferred Alternative, the DEIR analyzed the no-build alternative to establish baseline conditions. The alternative would continue current and future rental car operations in SWSA with each rental car agency in a separate location with individual

shuttle bus and customer service facilities. The DEIR also analyzed "Alternative 1" a six-level ConRAC structure on the north side of the SWSA away from Maverick Street with direct operational flow from the garage with a separate five-level commercial garage located in the eastern section of the SWSA across Jeffries Street. Under Alternative 1, the shuttle bus route exiting to Porter Street would create a poor level-of-service at the Porter Street/Harborside Drive intersection. "Alternative 2" proposed two, smaller six-level ConRAC structures with a separate five-level commercial parking structure on the eastern portion of the SWSA across Jeffries Street. Alternative 2 would circulate common bus shuttle traffic at the Maverick Street edge and results in inefficient on-site circulation

The DEIR also discussed additional alternative site locations that included relocating all rental car operations to other on-airport locations including:

- The Robie Parcel which was not adequate in size or location to accommodate the current and future rental car needs and would likely add vehicle miles traveled (VMTs) if used in connection with rental car operations.
- North Service Area which was not adequate in size or location to accommodate the current and future rental car needs and was not accessible to roadway and highway system.
- North Cargo Area which was not adequate in size or location to accommodate the current and future rental car and currently accommodates air cargo and essential airline support services such as hangars.
- Bird Island Flats/South Cargo Area which was not adequate in size or location and could interfere with primary cargo area with secured airside access

The FEIR should continue to provide updated information on transportation and buffer streetscape design to the surrounding neighborhood in relation to the Preferred Alternative.

Traffic/ Vehicular Transportation

The DEIR was prepared in conformance with the EOEA/EOTC Guidelines for EIR/EIS Traffic Impact Assessment. It analyzed traffic impacts by determining the Level-of-Service (LOS) at the intersections required in the ENF Certificate and the Boston Transportation Department (BTD) comment letter. The DEIR identified the potential Transportation Demand Management (TDM) measures that the proponent will commit to implementing.

Vehicle trips per day (VTD) will increase by about 7,570 from about 24,180 to 31,750 attributed the increase to the projected growth in air passengers. The DEIR analyzed how the proposed common shuttle bus system will improve customer service, reduce curbside traffic congestion, and reduce vehicle-miles-traveled (VMT). Specifically, VMTs for rental car shuttles are projected to be reduced by approximately 50 percent with a common shuttle bus system compared to running separate shuttles for seven rental car companies and the commercial parking. This equates to a savings of approximately 2,470 miles daily and over 215,000 gallons

per year of fuel (bus fuel efficiency of 4 miles per gallon). Analysis in the DEIR shows that without the SWSA Redevelopment Program and associated ground access improvements, the projected growth for most of the major current uses in the SWSA (rental cars, taxis, limousines) would lead to an overload of the surrounding airport roadway and traffic congestion during 2012 and 2017 No-Build/No-Action Conditions. Also, with the relocation of the Bus and Limousine Pools and shuttle bus consolidation into a common bus system, the projected Build traffic volumes entering and leaving the SWSA would be between six and ten percent less than the traffic volumes associated with 2012 and 2017 No-Build/No-Action Conditions. Proposed ramp, roadway and intersection improvements will result in peak hour traffic volumes and daily VMTs that are better than 2012 and 2017 No-Build/No-Action Conditions. The DEIR states that existing designated, overflow and economy commercial parking will be consolidated within the SWSA while remaining within the requirements of Logan Airport Parking Freeze. This action will not therefore increase traffic to and from the airport, but will consolidate this parking-related traffic in one location.

The DEIR predicts the number of air passengers using Logan Airport will grow at a rate of 2.3 percent per year and assumes that the percentage of taxi, rental car, and limousine traffic entering and exiting the SWSA will increase accordingly. Under the SWSA-Build condition, trip generation will increase from 26,080 - 30,680 AWDT in 2012 and 28,905 - 33,985 AWDT in 2017. The DEIR estimates the proposed project achieves an overall trip volume reduction of 6 to 10 percent of traffic entering and exiting the SWSA site. However the relocation of the bus and limousine pool will increase vehicle trips to the North Service Area (NSA). In the FEIR, the project proponent should take into account the shift in trips from the SWSA to the NSA. The FEIR also should indicate how Logan Airport air passenger and ground service peak activity periods, such as Sunday afternoon and evening arrival periods are accounted for in the traffic analysis. Also Massport has committed to comply with the Massachusetts Idling regulation (310 CMR 7.11). The proponent should post idling restriction signs in all loading and drop-off areas within the site to remind all drivers, patrons, and delivery personnel of the state's idling regulation.

The FEIR should use the study methodology contained in the detailed BTD comment letter to govern the remaining traffic analysis and issues that are still outstanding. The FEIR should continue to working with BTD, EOT and the community to identify further mitigation measures for areas where the project will have a significant impact on traffic operations. The FEIR should include clear commitments to implement the mitigation, and describe the timing and any phasing of the mitigation.

Pedestrian/Bicycle

The DEIR described design standards for plantings, street furniture, signage, and sidewalk and crosswalk widths and paving to ensure that the pedestrian environment generally is appealing and efficient. The FEIR should continue to discuss methods of improving pedestrian

safety and facilities, and limiting pedestrian-vehicular conflicts. Within the DEIR Massport has committed to improving pedestrian and bicycle connections to the SWSA, the community, and the airport. I expect the proponent to continue to work closely with the City of Boston and other local neighborhood groups, agencies and landowners to coordinate streetscape design and the Airport Buffer Program described in the DEIR. The FEIR should describe with more detail the plans to ensure that these areas especially are designed as pedestrian corridors and attractive urban open spaces.

Parking

The proposed project is a two-phased (2012 Phase 1 and 2017 Phase 2) redevelopment of the Southwest Service Area (SWSA). MassDEP has stated in its comment letter that while rental car storage spaces are not regulated under the Parking Freeze, the provisions of the Parking Freeze allow Massport to manage its parking space inventory on Logan Airport property as operational needs require so long as Massport does not exceed the inventory limiting number of 17,319 commercial and 3,373 employee parking spaces. The FEIR must address the specific comments that have raised questions related to the Parking Freeze and detail how each phase of the project will comply with the mandates of the Parking Freeze.

The FEIR should provide additional information relative to the fuel use and emissions reductions expected from the common shuttle bus operation. Consistent with the requirements of the Parking Freeze, the FEIR should provide information on Massport's plans and efforts to relocate any remaining East Boston based rental car facilities or operations that serve Logan Airport and are not part of the proposed consolidation onto Logan Airport.

Air Quality

The DEIR contains an air quality assessment with a microscale analysis of localized carbon monoxide (CO) and particulate matter (PM2.5 and PM10) conditions, a mesoscale analysis of volatile organic compounds (VOCs) and nitrogen oxides (NOx) emissions in the project study area, and a greenhouse gas analysis to quantify carbon dioxide (CO2) emissions. The greenhouse gas analysis, as described in detail in the next section of the Certificate, compared the direct and indirect emissions from the combined stationary and transportation sources under the respective 2007 existing condition and respective Build and No Build conditions for 2012 and 2017.

As stated in it comment letter, MassDEP approved the modeling parameters used in the microscale and mesoscale analyses and accepts the modeling assumptions of the greenhouse gas analysis and accuracy of the analyses' results. Several commenters have raised concerns about the methodology used which MassDEP has approved. The FEIR should clarify the issues raised by those letters and further detail and justify the approved modeling parameters and analyses. This additional discussion should include, but not be limited to, further description of how the

approved methodology accounts for the impact of cold starts and the extent to which the impacts of ultrafine particulates have been analyzed.

The microscale analysis within the DEIR applied atmospheric dispersion modeling for CO and PM2.5 and PM10 and "hotspot" modeling for roadway/intersections. The atmospheric dispersion modeling was conducted using the US Environmental Protection Agency's (EPA) AERMOD, Massachusetts-specific MOBILE 6.2 motor vehicle emission factors and meteorological data collected at Logan Airport. The CO "hot-spot" modeling was conducted using the EPA CAL3QHC model combined with Massachusetts-specific MOBILE 6.2 motor vehicle emission factors. I note the comments of EPA seeking clarification with respect to the analysis of CO emissions. Subsequent to the close of the public comment period, the proponent supplied additional information with respect to CO emissions. This additional information and any updates should be included in the FEIR.

The DEIR's mesoscale analysis predicted VOC and NOx emissions using the current US EPA emission model (MOBILE 6.2), and traffic flow conditions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017. The mesoscale analysis also was used to estimate the indirect emissions from transportation CO2 emissions associated with the additional project related vehicle trips. The calculation compared CO2 emissions for the respective 2007 existing condition, and respective Build and No Build conditions for 2012 and 2017.

The results of the atmospheric dispersion modeling and hotspot modeling indicate that the proposed project concentrations are well below NAAQS for CO and PM10/2.5. The mesoscale analysis indicates the proposed project is expected to reduce NOx emissions by 23.1 and 6.33 tons/year in 2012 and 2017, respectively, when compared to Future No-Build Conditions. The proposed project also is expected to result in reductions of up to three percent in VOC emissions when compared to the 2012 and 2017 No-Build Conditions.

The transportation related air quality benefits associated with the proposed project are largely derived from the reduction of vehicle trips, roadway improvements, and the proposed TDM measures. The FEIR should explore additional TDM measures which may yield further air quality benefits.

Greenhouse Gases

As outlined in the Certificate on the ENF, in accordance with the EEA Greenhouse Gas Emissions (GHG) Policy and Protocol, the DEIR was required to quantify GHG emissions generated by the proposed project and describe all GHG mitigation measures associated with the project. In the DEIR CO2 emissions associated with the SWSA Build Conditions are reported as 11,927 metric tons of CO2 /year by 2012, and 12,836 metric tons of CO2 /year by 2017. These values represent a 17 percent and 15 percent decrease in SWSA-related CO2 emissions when

compared to the corresponding 2012 and 2017 No-Build Conditions, respectively.

As noted by MassDEP, although the DEIR quantified CO2 emissions from mobile sources under the Preferred Alternative (as compared to the No-Build conditions) and presented measures to avoid, minimize and mitigate project-related GHG emissions, it did not include a modeling analysis of the energy use and CO2 emissions from the project's direct and indirect stationary sources which should be included in the FEIR. The DEIR represented that CO2 emissions would be reduced under the Preferred Alternative as the Preferred Alternative incorporates a number of sustainable design measures beyond a code-compliant building. However, the impact of those measures needs to be quantified in the FEIR.

As recommend by MassDEP and DOER, the energy modeling for stationary sources in the FEIR should reflect all of the specific mitigation measures selected for the building design, including the following:

Interior natural daylighting through clearstory windows and/or skylights;
High-efficiency lighting and lighting system controls, including motion sensors; The FEIR needs to identify specifically the lighting that will be used and reflect it in the energy modeling.

- Efficient, directed exterior lighting;
- High-albedo roofing materials;
- Energy-efficient mechanical systems and high-efficiency HVAC systems; The FEIR needs to specify the systems that will be used and reflect it in the energy modeling.
- Architectural elements on the façade that accommodate natural ventilation;
  Window glazing; and
- Independent building control systems.

The DEIR states that the project will strive to meet the Mass LEED Plus program. The Mass LEED Plus standard established by the Sustainable Design Roundtable calls for energy performance in buildings greater than 20,000 sq ft, "to exceed MA Energy Code requirements by at least 20 percent." Meeting this standard would be in keeping with the MEPA GHG Policy which states that the project baseline for energy usage should be based on code-compliant buildings. Therefore, energy mitigation measures for the project must extend beyond meeting the MA State Building Code. However, the FEIR also needs to clarify the standard the project intends to meet. According to the Department of Energy Resources (DOER) the MA LEED plus requirement of 20 percent energy cost savings or as 20 percent energy efficiency over the baseline is not the same as the MA LEED Plus standard issued by the Sustainable Design Roundtable.

As the project design advances, I strongly encourage the proponent to consider the feasibility of incorporating additional measures to reduce GHG emissions. In particular, the DEIR mentions that the proponent is investigating rooftop photovoltaic (PV) systems for the Customer Service Center and micro-wind on the parking structure. In addition, the proponent

has indicated an interest in evaluating the use of PV systems on the parking structure as well. New installation technologies allow for PV units to be arrayed above parking spaces, maximizing utilization of space and solar exposure as well as additional shading of the building below. The proponent should work with the Executive Office of Energy & Environmental Affairs and DOER to assess the feasibility of these measures at the ConRAC parking facility. The proponent's analysis of the feasibility of these measures should take into consideration the likely continued rise in the electricity prices, the continued reduction in the cost of PV, opportunities for third party PV arrays with power purchase agreements, new opportunities for utility ownership of solar installations, and the new requirements and standards in the Green Communities Act, Chapter 169 of the Acts of 2008.

Finally, the proponent should consider the additional energy use required to provide water and wastewater treatment for the project when evaluating the overall GHG reductions that can be obtained through mitigation efforts. The FEIR should include an update on any additional measures incorporated to the project that will help reduce project-related GHG emissions. I encourage the proponent to consult with the MEPA Office concerning the additional analysis required by this section.

Sustainable Design

A development the size of the proposed project presents a host of opportunities for incorporating sustainable design elements and sustainable construction into project design, consistent with the goals of Executive Order 484 and Executive Order 385. Sustainable design elements, over the course of the project design life, can both prevent environmental impacts and reduce operating costs to the proponent. The DEIR states that the site design will:

- Follow sustainable principles/LEED criteria for siting/sustainable sites (e.g., walking distance to public transportation).
- Complete the Phase 2 SWSA Landscape Edge Buffer;
- Enhance pedestrian and bicycle path connections for the community to airport facilities and public amenities such as Memorial Park and the Airport T-Station;
- Locate the garage and support structures to shield the adjacent neighborhoods from airport roadways and aircraft noise;
- Commit to incorporate principles of sustainable design in all aspects of design, construction, and operations; and
- Strive to achieve a LEED Silver level rating and the goals of the MA LEED Plus program.

I remind the proponent that stormwater regulations require that consideration be given to low impact development (LID) and the use of integrated management practices (IMP) for control of stormwater, either alone or in combination with conventional drainage control measures. LID is an approach to stormwater management that minimizes runoff impacts by maintaining and mimicking existing hydrologic functions through site design techniques such as disconnecting

runoff flow pathways and dispersing stormwater control across the site, reducing imperviousness, and minimizing clearing and grading while preserving natural resources and drainage patterns. When combined with pollution prevention measures, LID can be less costly than conventional gutter and pipe drainage system and can provide redundancy for stormwater control.

Drainage/Stormwater

The existing stormwater system for the project consists of catch basins and underground piping that flow to Maverick Street and Porter Street Outfalls. The DEIR states that the project is expected to improve the quality of runoff by upgrading stormwater management facilities site-wide, replacing uncovered vehicle surface parking with buildings and decreasing paved area. The DEIR states that the project will reduce almost three acres of impervious surface area due to new landscape buffer area, along with new and upgraded stormwater facilities would be included as part of the SWSA Redevelopment Program, thus improving the overall stormwater runoff quality from the site. Under Existing Conditions, portions of the SWSA discharge stormwater to the BWSC Porter Street Outfall. The proposed new stormwater system will reduce combined sewer overflow (CSO) discharge volumes and all stormwater will be conveyed to the existing Maverick Street Outfall, which has sufficient capacity for anticipated flow. I note that the NPDES permit (No. 0000787) was issued jointly by USEPA and MassDEP. Therefore, MassDEP's review of the proposed stormwater drainage system for compliance with the stormwater management standards extends to the entire 49 acres of the Southwest Service Area.

The stormwater drainage from the proposed Southwest Service Area is being directed to the Maverick Street outfall, where it may be necessary to attenuate drainage rates sufficiently to avoid CSO overflows, unless a credible and conservative stormwater analysis demonstrates that peak runoff rate controls are unnecessary. In this application, the Rational Method, as described in MassDEP's comment letter, is not appropriate to estimate potential flow attenuation to the CSO outfall. In order to properly evaluate the likelihood of unanticipated CSO occurrences, the FEIR must evaluate the runoff rate using TR20/TR55 method described in MassDEP's comment letter as well as the flow model required to be developed by the NPDES permit for Outfalls 001, 002, and 004.

The MassDEP Stormwater Standard 3 in conjunction with Stormwater Standard 7 requires recharge to be provided to the maximum extent practicable. Given the DEIR indicates the tidally influenced high groundwater is about 6 to 8 below grade, it would appear to be practicable to induce groundwater recharge. Although the DEIR mentions drywells are being investigated, a greater commitment to provide stormwater recharge must be made in the FEIR. In addition, the stormwater management system needs to be designed to treat one inch of runoff multiplied by the impervious area because the project site is a land uses with higher potential pollutant loads (LUHPPL), and stormwater will be discharged to a critical area.

The criteria for compliance with Standard 7 for redevelopment projects are more detailed

under the stormwater regulations than the Stormwater Management Policy. The Stormwater Management Handbooks require submittal of a complete set of computations to demonstrate that the structural best management practices (BMPs) meet standards 2 through 6, in addition to demonstrating that existing conditions have been improved. Because of the requirements for calculations, it cannot be affirmed that the stormwater management system design described in the DEIR is in conformance with the redevelopment standard. This information must be provided in the FEIR.

Wastewater

The DEIR included estimates of project water use and wastewater generation, and it demonstrated that adequate infrastructure exists or will exist to support the water supply and wastewater demands. The DEIR also described the infrastructure improvements necessary to accommodate projected wastewater flows.

The SWSA currently receives potable water from the City of Boston Water and Sewer Commission (BWSC) which obtains water from the Massachusetts Water Resources Authority (MWRA) system. The MWRA handles the wastewater generated from the SWSA, which is ultimately treated at the Deer Island Sewage Treatment Plant in Boston Harbor. The SWSA Redevelopment Program would require 108,300 gallons per day (gpd) of potable water and would generate 89,553 gpd of wastewater (based on DEP Title 5 guidelines). There will be a small increase in water usage and wastewater generation under the 2012 and 2017 Build Conditions due to the increase in vehicles and passengers accessing the consolidated rental car and commercial parking garage. In accordance with the goals of the MA LEED Plus program, the DEIR states that the project will reduce water use demand through the utilization of high-efficient, low flow plumbing fixtures, car wash water reclamation systems, and water efficient landscaping (e.g., use of low-water demand vegetation and native plantings). In addition, the design of the new sanitary and stormwater drainage systems would result in an overall reduction in combined sewer overflow volumes from the Porter Street Outfall and Maverick Street Outfall Drainage Areas.

MWRA is currently completing final design of the federally court ordered East Boston Branch Sewer Relief project intended to bring CSO discharges along the East Boston shoreline into compliance with the federal Clean Water Act and state water quality standards. Any increase in flow to the East Boston system may contribute to greater surcharging and overflows during wet weather. MassDEP, in cooperation with MWRA and its member communities (including Boston), are implementing a flow control program in the MWRA regional wastewater system, to remove extraneous clean water (e.g., infiltration/ inflow (I/I)) from the system.

Pursuant to 360 C.M.R. 10.023(1), the MWRA prohibits the discharge of groundwater to the sanitary sewer system, except in a combined sewer area when permitted by the Authority and the municipality. The proposed construction site of the SWSA Redevelopment Project at Logan

International Airport has access to storm drains and it is not located in a combined sewer area; therefore, the discharge of groundwater to the sanitary sewer system associated with this project is prohibited. Currently, Logan International Airport holds a USEPA-NPDES General Permit for its construction activities. For the SWSA Redevelopment Project, I reiterate as staed in the ENF certificate that Massport must comply with Logan International Airport's USEPA-NPDES General Permit for Storm Water Discharges from its construction activities.

Water Conservation

Although the main sources of GHG from this project are associated with building heating and cooling, lighting, and vehicle travel, the energy required to provide potable water and treat wastewater also will be a source of GHG, and in particular CO2. The DEIR states that Massport's goal is to reduce water use by about 20 percent and landscape irrigation by 50 percent. The DEIR also indicates that for compliance with MA LEED Plus criteria, water use demand will be reduced by installing high-efficiency low flow plumbing fixtures, car was water reclamation systems, and water efficient landscaping. As noted above, the FEIR also should quantify the effect of the low-flow fixtures and equipment that will be installed to reduce water demand. To achieve water and energy savings goals, consideration also should be given to using HVAC equipment with advanced evaporator coils, which have been reported to reduce water loss by about 50 percent and energy demand by up to 25 percent. Other mitigation measures appropriate for reducing energy use for water and wastewater are water distribution system improvements to eliminate un-accounted for water losses and infiltration and inflow (I/I) removal from sewer mains, which also is required to offset wastewater generated by the project which has the potential to increase sewer and combined sewer overflows.

Wetlands

The majority of the 49-acre site is not with a wetlands resource area or buffer zone. Wetlands jurisdiction extends to a small section of Harborside Drive within a buffer zone to wetlands, for which a Notice of Intent (NOI) is required to be filed. It also appears that the replacement of tidegates and stone dissipators at the outfall would entail work within coastal bank and land under water. A plan (C-2) in Appendix G (Sheet 2 of 3) shows replacement of tidegates at and/or near the Maverick Street outfall, which should be explained in the FEIR, because there is no mention of this work in the DEIR.

Noise

The DEIR contained an assessment of project-related noise impacts on appropriately sited nearby residential receptors. By consolidating and improving the efficiency of existing rental car operations, the DEIR states that the project will help to reduce overall future noise levels in adjacent neighborhoods. The project would result in the relocation of several existing noise sources away from the adjoining neighborhoods. The relocation of existing Bus and Limousine

Pools to the North Service Area would eliminate the current use of buses on Tomahawk Drive/Hotel Drive Extension and Jeffries Street. The number of shuttle buses serving the facility would be reduced because individual buses for each rental car company would be consolidated into a common shuttle system. In addition, shuttle bus traffic would be relocated farther from the airport property edge and the community in a shielded location on the opposite side of the parking structure and improved traffic-flow patterns for the shuttle buses would reduce or eliminate occurrences of shuttle bus back-up alarms.

Wind Impacts

The DEIR contained an analysis of pedestrian level wind impacts as it relates to air quality impacts associated with the project. The DEIR concludes that the results of a wind analysis demonstrate that the proposed SWSA Redevelopment Program (including the ConRAC facility and associated parking structure) is not expected to have any significant effect on pedestrian-level winds near the project or in the adjoining neighborhoods. The only predicted exception to this is near the corners of the garage structure and only under high wind conditions where planned landscaping in these areas will help minimize these potential effects. The FEIR should provide where available more details to the planned landscaping that will minimize wind consitions.

Visual Impacts

The DEIR contained an analysis of the visual impacts of the proposed project, including elements as viewed from nearby residential areas. The visual impacts are being reviewed by the City of Boston for building design. The FEIR should contain any updates of the visual analysis that occur.

Massachusetts Contingency Plan (MCP)/M.G.L. Chapter 21E

The DEIR contained an update on the status of the clean up efforts on the Release Tracking Numbers (RTN) areas for the site and the additional investigations in accordance with the Massachusetts Contingency Plan (MCP). I note that this project site is being regulated under MGL c. 21E (3-1611). Activities within the SWSA, particularly storage and transfer of petroleum products, have resulted in releases to the subsurface. Releases of Oil and Hazardous Material (OHM) by tenants were reported to MassDEP. According to the DEIR all but one of the RTNs have been closed out, with three resulting in the filing of an Activity and Use Limitation (AUL). The other RTN was assigned in August 2007 and the area is still under investigation. The three AUL areas will require that a soil management plan be developed by a Licensed Site Professional (LSP) and submitted to MassDEP prior to construction within those areas. The DEIR states that decommissioning of the existing rental car facilities will include the removal of older fueling systems and associated tanks (in accordance with applicable public safety regulations), which will be replaced with new state-of-the-art systems. The project will also

include the remediation of subsurface contamination encountered during tank removals or other excavation activities. The DEIR also projects that replacing open surface parking areas with a parking structure would reduce the runoff from parking lots and its incidental hydrocarbon loading. The FEIR should contain any updates on the status of the clean up efforts on the RTN areas for the site.

Recycling Issues

The project includes demolition and reconstruction, which will generate a significant amount of construction and demolition (C&D) waste. By incorporating recycling and source reduction into the design, the proponents would have the opportunity to join a national movement toward sustainable design. The project proponent should be aware there are several organizations that provide additional information and technical assistance, including WasteCap, the Chelsea Center for Recycling and Economic Development, and MassRecycle.

MassDEP commends the proponent in its comment letter for recognizing the importance of materials management within its DEIR filing for the Southwest Service Area redevelopment project. In order to address GHG emissions related to materials management in the FEIR, the FEIR should quantify the GHG impacts of materials management for the project development and projected future operation. By quantifying these impacts, the applicant's GHG mitigation efforts related to materials management can be more clearly identified and targeted appropriately. The FEIR should contain quantification to help guide changes in the project, which provide a comprehensive approach to materials management throughout the design, construction, and operational phases of the project.

Construction Period

The DEIR evaluated construction period impacts, with an emphasis on erosion and sedimentation, evaluation of the existing stormwater system and traffic impacts on adjacent roadways, air quality and solid waste disposal. The DEIR commits to a construction phasing plan that proposes to minimize disruptions in the project area and for the entire airport. Specifically, foundation work, such as pile driving, will be arranged for minimal impact and only occur for a relatively short period of time. Piles will be pre-augured through the upper 60 feet or more of soils, reducing the number of hammer blows required to seat the piles, therefore reducing the noise impact on the community. In order to reduce potential impacts from construction activities, Massport will implement a Construction Management Plan that will include:

- An Erosion and Sedimentation Control Program to minimize construction phase impacts to the nearby water resources.
- A requirement that construction contractors install emission control devices on certain equipment types in order to reduce impacts to air quality.
- Noise attenuation measures such as temporary noise barriers, re-routing traffic and/or

equipment mufflers that may reduce temporary construction noise impacts within the surrounding community. Pile driving will be required to comply with a project-specific noise specification that will reflect the requirements of City of Boston noise ordinances, and will restrict the types of equipment that can be used and may limit the hours when certain activities can take place.
Recycling of the materials resulting from removal of the existing above ground building structures, along with the below-ground foundation slabs and footings, plus all other surface asphalt and concrete that is removed during demolition will divert construction waste from landfills.

I also advise the proponent to require all project contractors to install after-engine emission controls such as diesel oxidation catalysts (DOCs) or diesel particulate filters (DPFs). MassDEP commends the project proponent for committing to installing these devices to reduce engine emissions.

Mitigation/Section 61

The FEIR should include a separate chapter updating commitments to project-related mitigation. This section should include a summary of mitigation commitments as well as draft Section 61 finding language for use by State agencies during each individual permitting process.

The updated Section 61 findings should specify in detail all feasible measures the proponent will take to avoid, minimize and mitigate potential environmental impacts to the maximum extent practicable. Section 61 findings should identify and clarify parties responsible for funding and implementation, and the anticipated implementation schedule that will ensure mitigation is implemented prior to or when appropriate in relation to environmental impacts.

Circulation

The FEIR should be circulated in compliance with Section 11.16 of the MEPA regulations and copies should also be sent to the list of "comments received" below and to Boston officials. A copy of the FEIR should be made available for public review at the Boston Public Library (East Boston Branch), the Revere Public Library, Chelsea Public Library and the Winthrop Public Library.

October 10, 2008
Date

Ian A. Bowles

Comments received:

09/08/2008 Boston Transportation Department

| | |
|---|---|
| 09/08/2008 | Susan Parker Brauner |
| 09/23/2008 | Avis Budget Group, Dollar Rent A Car, Vanguard Car Rental USA, Dollar Thrifty Automotive Group, The Hertz Corporation, Enterprise Rent A Car |
| 09/24/2008 | Ida LaMattina of Gove Street Citizens Association |
| 09/24/2008 | Stacey and Jason Alstrom |
| 09/24/2008 | Jeffries Point Neighborhood Association |
| 09/24/2008 | Allyson Gray |
| 09/25/2008 | East Boston Community Development Corporation |
| 09/25/2008 | Environmental Protection Agency |
| 09/25/2008 | Richard Salini of East Boston Piers PAC |
| 09/26/2008 | Melissa Tyler |
| 09/26/2008 | Jonathan Ralton |
| 09/26/2008 | Department of Environmental Protection, NERO |
| 09/26/2008 | Peter Koff of Engel &Schultz, LLP |
| 09/26/2008 | Board of Trustees, Porter 156 Condominium Trust |
| 09/26/2008 | Susan Plunkett |
| 09/26/2008 | Massachusetts Department of Public Health |
| 09/26/2008 | Fred Salvucci |
| 09/26/2008 | Response to Comments from the Proponent |
| 09/29/2008 | Wig Zamore |

IAB/ACC/acc

# Attachment D
# Drainage Supporting Documentation

■

- Cover Letter of package
- Attachment 1: Responses to the DEP letter to MEPA on the June 2008 Draft EIR/EA
- Attachment 2: Work Within Maverick Street Outfall
- Attachment 3: Standard 2 – Pre/Post Drainage Calculations
- Attachment 4: Stormwater Management Standards

**Massachusetts Port Authority**
One Harborside Drive, Suite 200S
East Boston MA 02128-2909
Telephone (617) 428-2800
www.massport.com

February 25, 2009

Massachusetts Department of Environmental Protection
Northeast Regional Office
Attn: Ms. Nancy Baker
205B Lowell Street
Wilmington, Massachusetts 01887

Re: **Responses to Drainage-Related Comments of June 2008 Draft Environmental Impact Report/Environmental Assessment EEA #14137**
Southwest Service Area Redevelopment Program at Boston-Logan International Airport
East Boston, Massachusetts

Dear Ms.Baker:

Massport is currently working on the Final EIR and wanted to provide DEP with a preliminary update. The purpose of this submission is to provide responses (with supplemental support information/documentation) to the drainage-related comments received by the Massachusetts Environmental Policy Act (MEPA) Office EEA #14137 from your department on the June 2008 Draft Environmental Impact Report/Environmental Assessment (Draft EIR/EA). Please refer to the enclosed Table of Contents for a complete list of the supplemental information/documentation. Massport is planning for an early spring 2009 submission of the FEIR and would appreciate any initial DEP feedback on our draft responses by March 6, 2009, which would enable Massport to respond to the comments in the FEIR.

Massport has moved forward with analyzing the existing site drainage conditions as well as developing a stormwater management plan for the proposed program and includes the following:

- A drainage analysis to specifically address DEP's comments;
- Massport drainage flows are being redirected to eliminate any potential contributions to CSOs in the area;
- Massport conducted the requested hydraulic evaluations and modeling and used the most conservative results for the drainage of the stormwater drainage improvements and stormwater related structural BMPs;
- The proposed design will reduce the amount of SWSA impervious surfaces draining to Boston Harbor by 15%

Since the filing of the Draft EIR/EA, a physical inspection of the existing Maverick Street Outfall was undertaken to reconcile inconsistent information provided in drainage plans for the area. On January 21, 2009, Massport met with the Boston Water and Sewer Commission (BWSC) to discuss the SWSA drainage plan which included removing four acres from the combined sewer BWSC pipe and reviewed the modifications to the existing Maverick Street Outfall. The minutes from the meeting with BWSC and sketches of the proposed modifications can be found in **Work Within the Maverick Street Outfall (Attachment 2)**. BWSC was in agreement with the proposed modifications to the Outfall 004 and their involvement will be ongoing as the design continues into the preliminary and final design phases. It is

Massport's understanding that the minor modifications to Outfall 004 will not require modifications to Massport's or BWSC's NPDES permits.

CDM Engineering maintains the NPDES flow models for Massport and BWSC. CDM evaluated both the BWSC and Massport flow models for the existing conditions at the Maverick Street Outfall 004. The results were compared to the TR20/TR55 flow model results and it was determined that the TR20/TR55 calculations are more conservative. Therefore a full pre and post flow model analysis was performed using the TR20/TR55 flow model. The results of CDM's analysis and the TR20/TR55 can be found in **Standard 2 – Pre/Post Drainage Calculations (Attachment 3)**. The results of this analysis showed a reduction in post development flows from existing conditions.

In addition to updating DEP with the findings of the Outfall 004 inspection and the meeting with BWSC, Massport has addressed DEP's comments related to the new Stormwater Management Standards. DEP specifically requested that Massport comply with Standards 2 through 6 which consist of:

- Standard 2 – TR20/TR55 and Rational Method pre and post development calculations have been performed for the SWSA. These calculations can be found in **Standard 2 – Pre/Post Drainage Calculations (Attachment 3).** The project fully complies with Standard 2.
- Standard 3 – Calculations to be provided with the Notice of Intent. See response to Comments S-001-001. The project will fully comply with Standard 3.
- Standard 4 –Possible BMP options are included in **Stormwater Management Standards (Attachment 4)**. The project will fully comply with Standard 4.
- Standard 5 – LUHPPL requires use of 1" for Water Quality Volume. See TSS Removal calculations in **Stormwater Management Standards (Attachment 4)**. The project will fully comply with Standard 5.
- Standard 6 – Shellfish Beds (Critical Area) requires use of 1" for Water Quality Volume. See TSS Removal calculations in **Stormwater Management Standards (Attachment 4)**. The project will fully comply with Standard 6.

Massport has reviewed the MA Stormwater Handbook and the SWSA will fully comply with these standards. We have attached an overview of the pre and post drainage calculations, TSS removal calculations, as well as BMPs that will be further evaluated as the design continues into final design. The FEIR will contain our full analysis and discussion of each of these Stormwater Standards.

Please do not hesitate to contact me at 617-568-3546 or via e-mail at tennis@massport.com if you have any questions.

Sincerely,

Thomas W. Ennis
Senior Project Manager/Senior Planner
Massport

cc: Craig Leiner, Massport
John Sullivan, BWSC
Anne Canaday, MEPA

## Table of Contents

**Attachment 1: Responses to the DEP Letter to MEPA on the June 2008 Draft EIR**

**Attachment 2: Work Within the Maverick Street Outfall**

- January 21, 2009 BWSC Meeting Minutes
- Table 1 Pre and Post Development Catchment Areas
- Table 2 Pre and Post Development Flows to the Maverick Street CSO
- Figure 5.3 Existing Site Drainage
- Figure 5.4 Proposed Site Drainage
- BWSC Maverick Street Combined Sewer Drainage Areas
- Figure 5.5 Existing Maverick Street Outfall Plan and Detail
- Figure 5.6 Proposed Maverick Street Outfall Plan and Detail
- 1987 As-built Plan of Maverick Street Outfall
- 1997 As-built Plan of Maverick Street Outfall

**Attachment 3: Standard 2 – Pre/Post Drainage Calculations**

- Figure 5.2 Stormwater and Combined Sewer Overflow Outfalls
- Table 3 TR20/TR55 Calculations Summary Sheet
- Table 4 Rational Method Calculations Summary Sheet

**Attachment 4: Stormwater Management Standards**

- TSS Removal Calculations

# Attachment 1
# Responses to DEP Letter to MEPA on the June 2008 Draft EIR

■

**SOUTHWEST SERVICE AREA REDEVELOPMENT PROGRAM**
**BOSTON-LOGAN INTERNATIONAL AIRPORT**
**EAST BOSTON, MASSACHUSETTS**

## Responses to DEP Letter to MEPA ON THE JUNE 2008 DRAFT EIR (Dated September 26, 2008)

Comment S-001-001: "*Wetlands jurisdiction extends to a small section of Harborside Drive within a buffer zone to wetlands, for which a Notice of Intent (NOI) is required to be filed*."

Response: When the design has reached between 75% to 90% completion a NOI will be submitted to the Boston Conservation Commission. The existing resource areas were shown in Figure 7.1 of the DEIR.

Comment S-001-002: "*It also appears that the replacement of tidegates and stone dissipators at the outfall would entail work within the coastal bank and land under water*."

Response: The replacement of tidegates as indicated in Appendix G of the DEIR refers to work previously performed in 1987 and 1997. The proposed minor modifications within the Maverick Street Outfall with this project are described in **Attachment 1**, BWSC meeting minutes from January 21, 2009. Figures 5.5 and 5.6 included as part of **Attachment 1** show the proposed work at the Outfall.

Comment S-001-003: "*MassDEP's review of the proposed stormwater drainage system for compliance with the stormwater management standards extends to the entire 49 acres of the Southwest Service Area and not just the project segment proposed within the buffer zone*."

Response: The entire Southwest Service Area will comply with the stormwater management standards.

Comment S-001-004: "*In order to properly evaluate the likelihood of unanticipated CSO occurrences, Massport must evaluate the runoff rate using TR20/TR55 as well as the flow model required to be developed by the NPDES permit for Outfalls 001, 002, and 004*."

Response: The outfalls related to the project are shown in Figure 5.2 in **Attachment 2.**

North Outfall 001: None of the storm drainage runoff from the SWSA discharges to Outfall 001, so this outfall will not be evaluated for this design.

West Outfall 002: Only 1.6 acres of the existing SWSA discharges to Outfall 002. The Project proposes to completely eliminate all runoff to Outfall 002. Therefore, the Project will not evaluate this outfall.

Porter Street Outfall 003: Existing storm water runoff from the northern portion of the SWSA discharges to the Porter Street Outfall 003 conduit downstream of the regulator. The Project proposes to reduce the drainage discharging to Outfall 003 by approximately 2 acres which will be rerouted to Outfall 004 in the post development conditions. Since the stormwater discharge is downstream of the regulator, it has no impact on the likelihood of unanticipated CSO occurrences. Therefore, there will not be a hydraulic evaluation under the design of the SWSA.

Maverick Street Outfall 004: This outfall consists of two chambers: one receives CSO flows from BWSC's system, while the other receives separated stormwater from Massport's SWSA. Currently, there is a 4-acre portion of the SWSA that discharges upstream of the regulator to BWSC's combined sewer in Maverick Street. The Project proposes to remove this discharge, which will contribute to reducing the likelihood of CSO occurrences at Outfall 004. Massport and BWSC have met to discuss some modifications to facilitate the capacity of this outfall to handle the flows from this Project. These modifications are described in **Attachment 1,** Meeting Minutes from the January 21, 2009 meeting and are depicted on Figures 5.5 and 5.6.

Calculations: The TR20/TR55 and Rational Method calculations for the SWSA are included in **Attachment 2**. The calculations demonstrate that:
1) All SWSA flows to BWSC's combined sewers upstream of a regulator are being eliminated, thereby reducing the likelihood of unanticipated CSO occurrences.
2) Flows to Outfall 003 downstream of the regulator are being reduced.
3) The remainder of the SWSA will discharge to a separated storm drainage outfall, which will be separated from CSO flows.

Comment S-001-005: "*A greater commitment to provide stormwater recharge must be made by Massport*."

Response: A greater commitment to provide stormwater recharge is currently being evaluated. Further information on the existing soils and the groundwater table is being collected to better evaluate locations where recharge is most likely. The FEIR Chapter 5, Natural Resources and Drainage, discusses recharge approaches that are currently being evaluated. Massport will provide recharge to the greatest extent practical.

Comment S-001-006: "*The stormwater management system needs to be designed to treat one inch of runoff multiplied by the impervious area because the site is a LUHPPL and stormwater will be discharged to a critical area*."

Response: Due to both of these conditions, it is agreed that the full one inch of runoff will be used to calculate the water quality volume.

Comment S-001-007: "*The Stormwater Management Handbook requires submittal of a complete set of computations to demonstrate that the structural BMPs meet*

*Standards 2 through 6, in addition to demonstrating that existing conditions have been improved*."

Response: The FEIR will show that structural BMPs will meet Standards 2 through 6 as well as the existing conditions will be improved.

- Standard 2 – See pre and post development calculations in **Attachment 2**
- Standard 3 – Calculations to be provided with the Notice of Intent. See responses to Comments S-001-001.
- Standard 4 –Possible BMP options are included in **Attachment 3**.
- Standard 5 – LUHPPL requires use of 1" for Water Quality Volume. See TSS Removal calculations in **Attachment 3**.
- Standard 6 – Shellfish Beds (Critical Area) requires use of 1" for Water Quality Volume. See TSS Removal calculations in **Attachment 3**.

Comment S-001-008: "*An illicit discharge compliance statement and an associated map are required for Standard 10 to show that there are no illicit discharges at the project site*."

Response: The Project will construct new separated storm and sanitary systems and there will be no illicit connections. The proposed preliminary drainage system is shown in Figure 5.4 (**Attachment 1**) and the proposed preliminary sewer system was shown in Figure 8.2 in the DEIR. The final design and construction of all storm drainage and sewer systems will be done to Massport and BWSC standards. The details of each system will be developed in close coordination with BWSC staff as well as Massport staff. The design used for the storm drainage system will be a 10 year 24 hour design storm.

Comment S-001-009: "*The Department appreciates that Massport is considering low impact development measures, including vegetated swales, permeable pavement, rain barrels/cisterns, and tree box filters. The stormwater management plan in the FEIR should be presented at a level of detail to show where these systems are planned to be used within the 49 acre site*."

Response: The Landscape Plan Figure S.6 from the DEIR shows the future location of green space and trees. LID are being evaluated throughout the SWSA. If feasible, potential locations for vegetated swales would be along the roadway edges where there is green space as well as tree box filters where trees are being planted. Some trees along the western Service Drive roadway are existing trees that will remain in the post development conditions. Permeable pavement is being evaluated for locations where there are pedestrian walkways. Additionally, stormwater runoff collection from the roof of the Customer Service Center, Quick Turn Around buildings, as well as the possible roofs of the solar panels on the top level of the garage are being evaluated.

# Attachment 2
# Work Within the Maverick Street Outfall

- January 21, 2009 BWSC Meeting Minutes
- Table 1 Pre and Post Development Catchment Areas
- Table 2 Pre and Post Development Flows to the Maverick Street CSO
- Figure 5.3 Existing Site Drainage
- Figure 5.4 Proposed Site Drainage
- BWSC Maverick Street Combined Sewer Drainage Areas
- Figure 5.5 Existing Maverick Street Outfall Plan and Detail
- Figure 5.6 Proposed Maverick Street Outfall Plan and Detail
- 1987 As-built Plan of Maverick Street Outfall
- 1997 As-built Plan of Maverick Street Outfall

# CONSOLIDATED RENTAL CAR FACILITY (CONRAC)
# BOSTON LOGAN INTERNATIONAL AIRPORT

## DRAINAGE AND MAVERICK STREET OUTFALL MEETING

## MEETING MINUTES
**BWSC Office, 980 Harrison Avenue**
**January 21, 2009, 10:00 a.m.**

Attendees:
BWSC: John Sullivan; Stephen Shea, Tom Daily, Irene Woodfall
MPA: Tom Ennis, Keith Beasley
PB: Andy Boyd, John Burckardt, Katie Moulton

1. OVERVIEW OF CONRAC PROJECT -
   Tom Ennis gave an overview of the proposed ConRAC project

2. MPA DRAINAGE AND BWSC CSO TO MAVERICK STREET OUTFALL -
   Katie Moulton gave a brief description of the understanding of the MPA drainage and the BWSC CSO and the inspection of the Maverick Street Outfall recently completed.

   The Maverick Street Outfall Structure currently serves as an outfall for MPA drainage, and as a combined sewer outfall for the Boston Water & Sewer Commission (BWSC). Based on our review of available plans, the outfall structure appears to have been originally constructed for MPA stormwater use, but the structure was later modified to allow for the connection of a 42-inch BWSC combined sewer overflow pipe. In addition to the 42-inch pipe connection, a block wall was installed within the structure to allow for separate discharge of flow to Jeffries Cove from MPA and BWSC areas.

   The inspection crew photographed and measured the details of the concrete block wall between the MPA side and BWSC side of the outfall structure (see Attachment 2). The block wall had been installed to provide a hydraulic separation between the MPA and BWSC outfalls, but has since been partially broken down. According to the crew's observations, the block wall appeared to be originally 6 blocks wide by 5 blocks high. Each block is 7 ½" high and 15 ½" wide. The top two layers of blocks had been broken away or missing. Four blocks on the top layer were gone and 3 ½ blocks on the second layer down had also been broken. So the opening in the block wall is now approximately 4'-6" wide by 1'-3" high. The current configuration of the outfall does not provide adequate capacity for the drainage in either the pre or post construction conditions.

3. PROPOSED MODIFICATIONS TO THE MAVERICK STREET OUTFALL –
   PB and MPA presented a design to BWSC showing the minor modifications to the existing outfall and the proposed relocation of the tide gates upstream for both BWSC and MPA. An explanation of the proposed work is described below.

<u>Proposed modifications to Outfall 004 Maverick Street</u>

(See Figure 5.5 and Figure 5.6 for the existing and proposed configuration of the outfall)

- Remove the existing concrete block wall that currently separates the structure into two distinct outfalls.
- Remove the existing flap gates on both sides of the Outfall.

- Replace the grate and stop log on the BWSC side of the Outfall. The grate and stop log exists on the MPA side of the outfall but the grate and stop log on the BWSC is currently missing. Due to the missing grate, rocks and other debris are currently blocking the flap gate from closing completely.
- Construct a new tide gate structure, west of the existing outfall, along the Harborwalk for BWSC. This structure would be for CSO occurrence monitoring as well as maintenance of the tide gate. The new location provides BWSC with a better location for maintenance and monitoring as well as a diminished likelihood for debris to block the flap gate since the flap gate is no longer located at the water's edge.
- Construct a new tide gate structure, north of the existing outfall, for MPA. The structure would be for maintenance and outfall monitoring. Similar to BWSC's new structure, the new structure would provide a better location for maintenance and monitoring as well as a diminished likelihood for debris to collect at the mouth of the flap gates.
- Construct a new flap gate at the location of the existing concrete block wall. The flap gate was recommended by BWSC to stop a CSO occurrence from their system from mixing with the drainage coming from MPA's culvert. The flap gate would only allow flow from the MPA culvert to exit to the harbor.
- There would be no connections into the system downstream of either of the new tide gate locations.

BWSC was in agreement with this proposed work and suggested that a multi-flap gate be added where the existing CMU wall that divides the structure is. BWSC explained that they are staying away from one large flap gate as they find they do not work as well as multiple small flap gates. BWSC's recommendation was that these flap gates would stop any CSO discharge from the BWSC line from mixing with MPA's drainage inside the outfall structure, particularly during low flows when the tide is coming in and CSO flows could travel upstream through the Massport drainage system.

BWSC informed PB and MPA that they are currently negotiating with DEP to separate the tributary area to this CSO, thus making the existing 42" RCP pipe into a separated storm drainage outfall. The proposed design of the SWSA shows MPA removing 4 acres of drainage from the BWSC combined sewer on Maverick Street, the removal of which would provide BWSC with additional capacity in the existing system.

John Sullivan requested a copy of the two as-built plans of the Maverick Street Outfall (1987) and the tide gate replacement (1997). This should be submitted with an accompanying letter explaining the MPA proposed modifications at the outfall.

As the design progresses PB and MPA will meet again with BWSC.

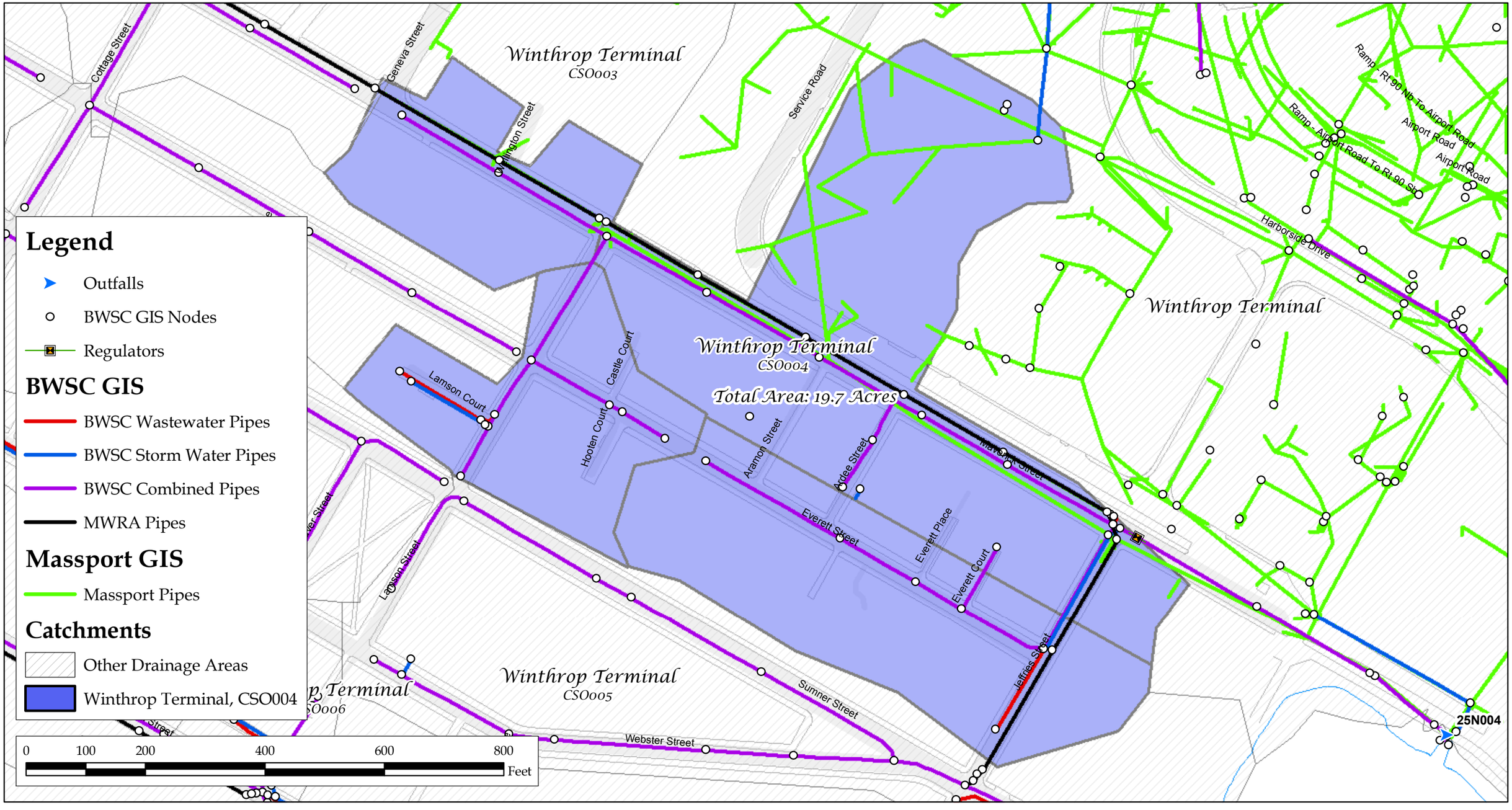
-

Table 1
Southwest Service Area Drainage Areas
Pre- and Post-Development Areas to Outfalls

| Location | Pre-Development Total Area | Post-Development Total Area |
|---|---|---|
| Porter St. Outfall | 11.7 Acres | 10.0 Acres |
| Maverick St. CS | 4.0 Acres | 0 Acres |
| Maverick St. Outfall | 36.2 Acres | 43.5 Acres |
| Bird Isle Flats / West Outfall | 1.6 Acres | 0 Acres |
| TOTALS | 53.5 Acres | 53.5 Acres |

Table 2
SWMM MODEL RESULTS
Pre- and Post-Development Flows to the Maverick Street Combined Sewer

| Pre-Development | 10 Year | 25 year | 100 year |
|---|---|---|---|
| 42" BWSC (15.74 ac) | 19.1 cfs | 27.1 cfs | 35.1 cfs |
| MPA (4.0 ac) | 4.9 cfs | 6.9 cfs | 8.9 cfs |
| TOTAL | 24 cfs | 34 cfs | 44 cfs |
| Post-Development | | | |
| 42" BWSC (15.74 ac) | 19.1 cfs | 27.1 | 35.1 |
| MPA (0 ac) | 0 cfs | 0 cfs | 0 cfs |
| TOTAL | 19.1 cfs | 27.1 cfs | **35.1 cfs** |

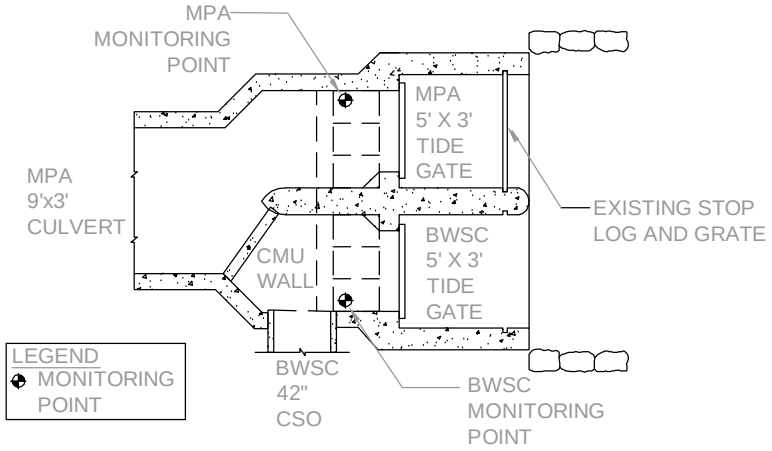



# BWSC Systemwide Model
# CSO 004/005 Updated Drainage Area Delineation

EXISTING CONDITIONS

N
W E
S

CDM




MAVERICK STREET OUTFALL STRUCTURE
EXISTING CONDITIONS

0 150 300 600 1200

graphic scale in feet

N

massport

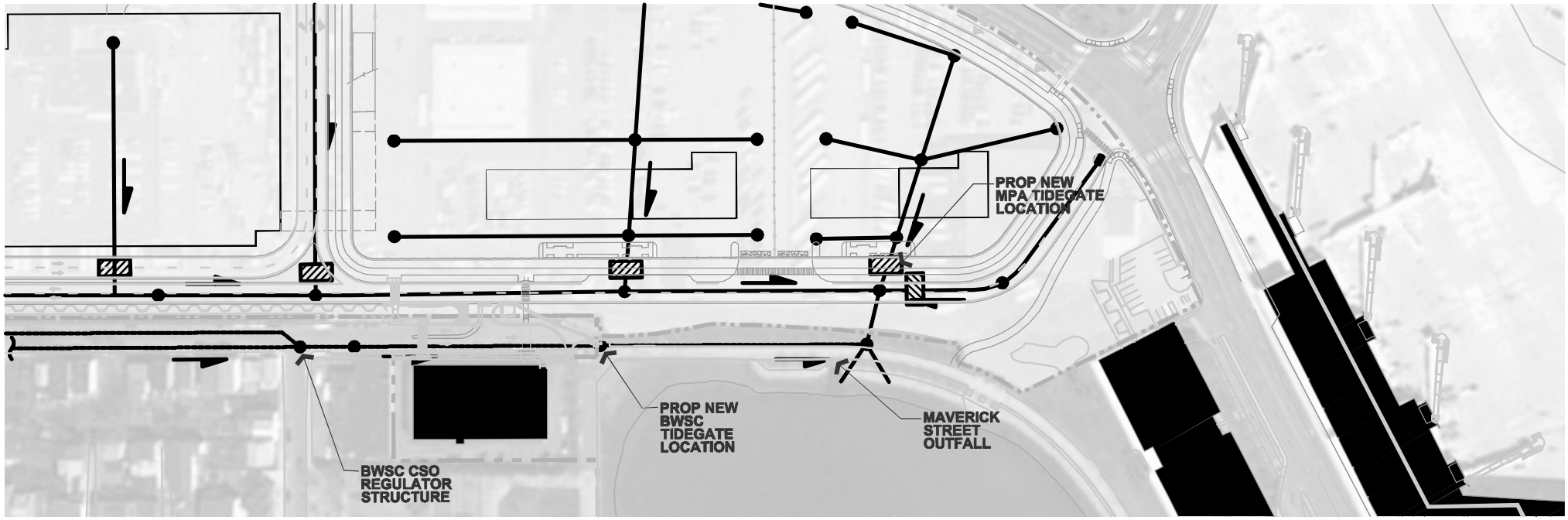
Southwest Service Area
Redevelopment Program

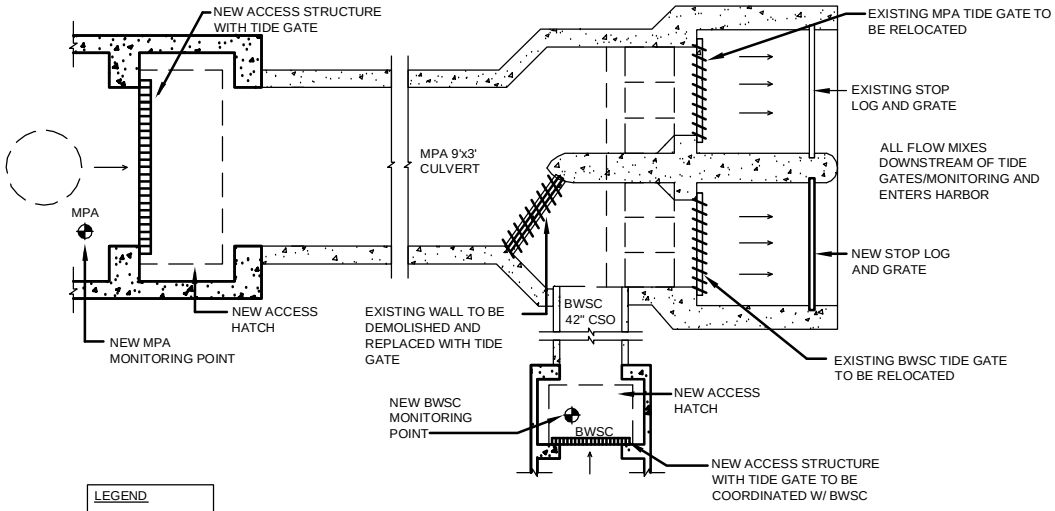
Logan International Airport
East Boston, Massachusetts

PGAL | PB
planning collaborative

FIGURE 5.5

Existing Maverick St. Outfall
Plan and Detail




MAVERICK STREET OUTFALL STRUCTURE
PROPOSED CONDITIONS

0 150 2000 600 1200

graphic scale in feet

massport

Southwest Service Area
Redevelopment Program

Logan International Airport
East Boston, Massachusetts

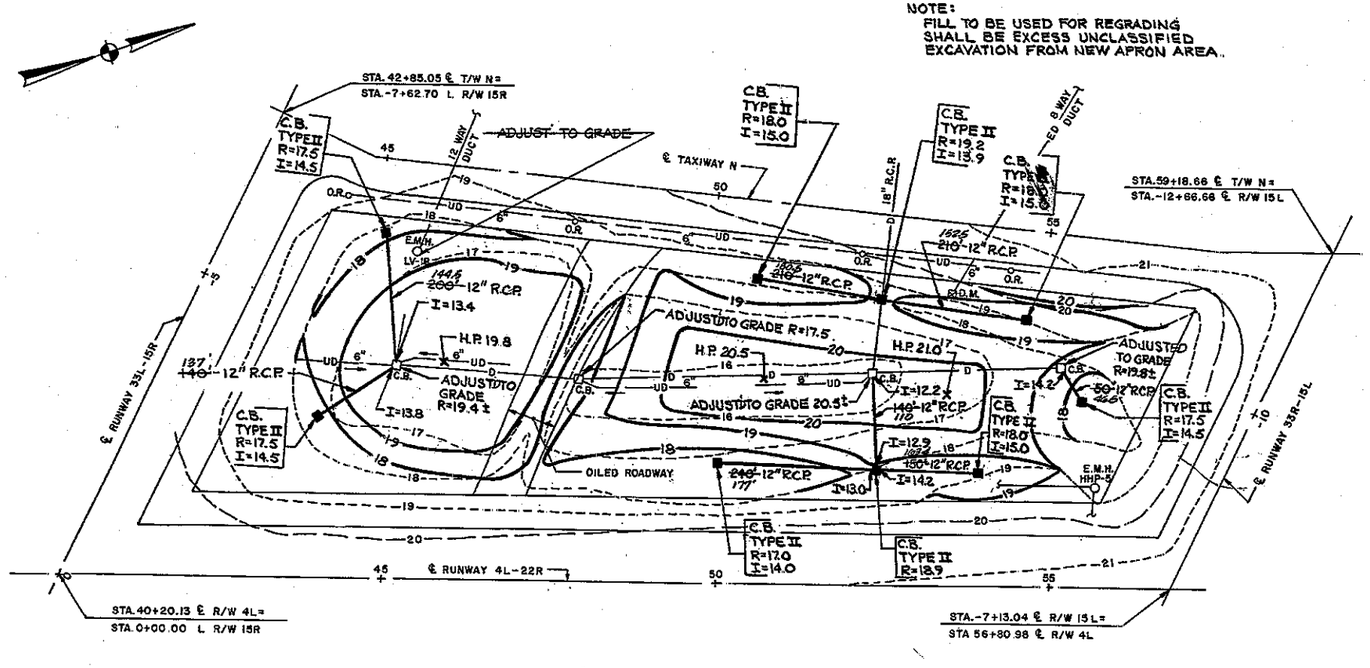
N

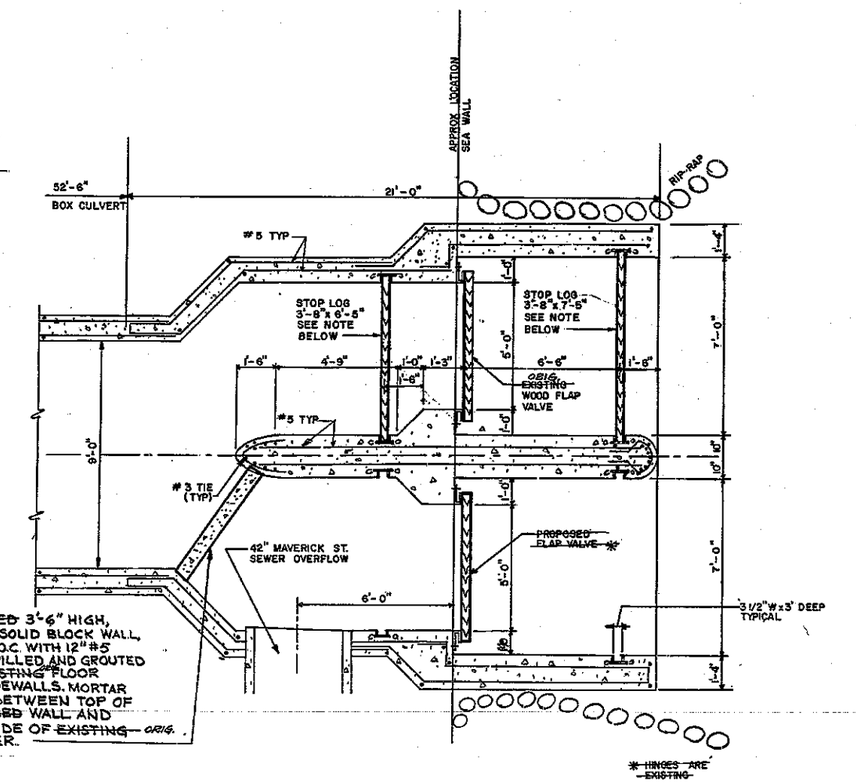
PGAL | PB
planning collaborative

FIGURE 5.6

Proposed Maverick St. Outfall

NOTE:
FILL TO BE USED FOR REGRADING SHALL BE EXCESS UNCLASSIFIED EXCAVATION FROM NEW APRON AREA.

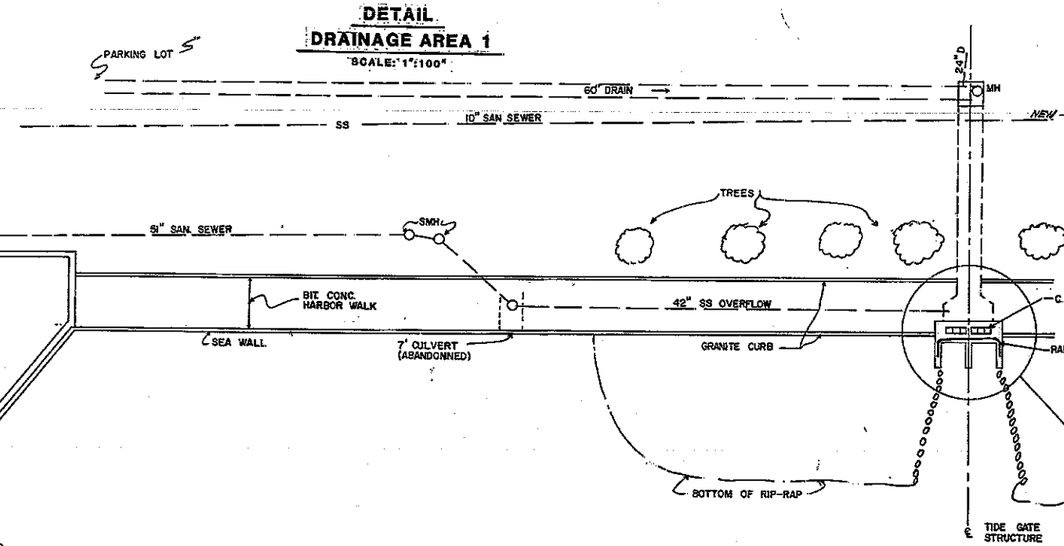




APPROX. LOCATION SEA WALL
RIP-RAP
52'-6" BOX CULVERT
21'-0"
#5 TYP
STOP LOG 3'-8"x 6'-5" SEE NOTE BELOW
STOP LOG 3'-8"x 7'-5" SEE NOTE BELOW
6'-6"
ORIG. EXISTING WOOD FLAP VALVE
#5 TYP
#3 TIE (TYP)
42" MAVERICK ST. SEWER OVERFLOW
PROPOSED FLAP VALVE *
6'-0"
3 1/2"W x 3" DEEP TYPICAL
NEW PROPOSED 3'-6" HIGH, 8" THICK SOLID BLOCK WALL, TIED 6" O.C. WITH 12" #5 RODS, DRILLED AND GROUTED INTO EXISTING FLOOR AND SIDEWALLS. MORTAR SPACE BETWEEN TOP OF PROPOSED WALL AND UNDERSIDE OF EXISTING ORIG. CHAMBER.
* HINGES ARE EXISTING

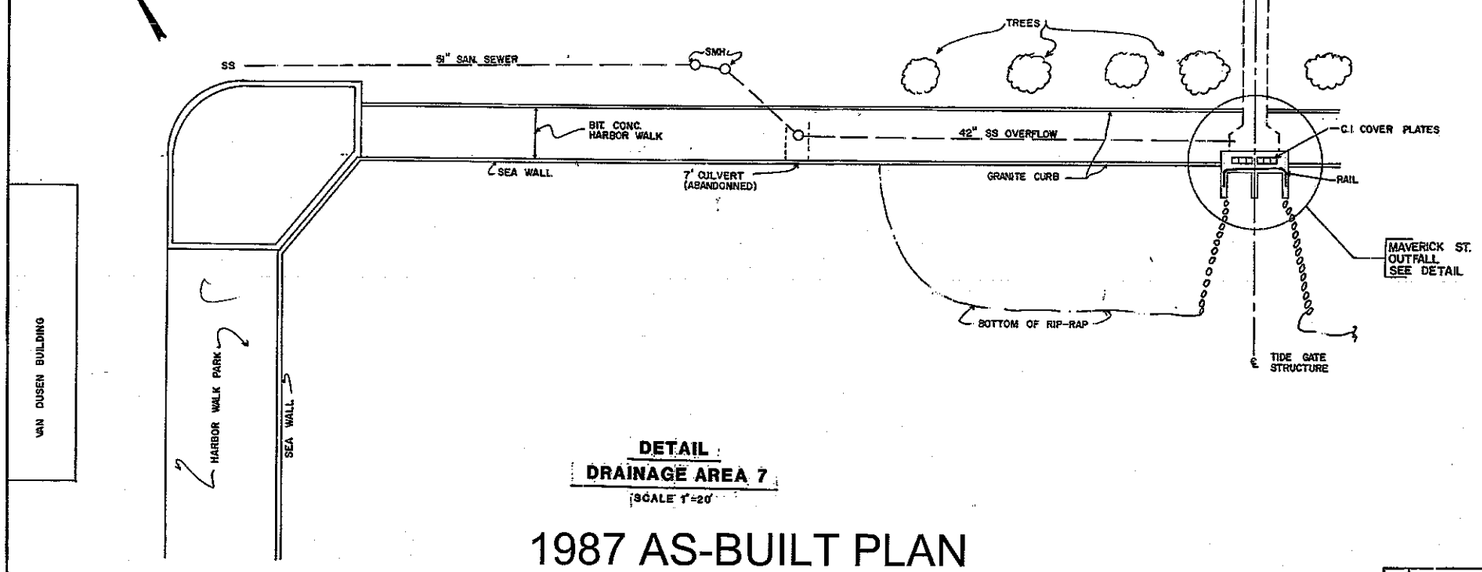
## MAVERICK ST. OUTFALL
SCALE 3/8"=1'

NOTE:
STOP LOGS SHOWN ONE SIDE ONLY. CONTRACTOR SHALL PROVIDE NEW STOP LOGS AS REQUIRED.

## DETAIL
## DRAINAGE AREA 1
SCALE: 1"=100'




## DETAIL
## DRAINAGE AREA 7
SCALE 1"=20'




# 1987 AS-BUILT PLAN
# FOR INFORMATION ONLY

| NO. | REVISIONS | BY | APP. | DATE |
|---|---|---|---|---|
| | | | | |

SUBMITTED BY:
EDWARDS AND KELCEY INC.

KENNETH JAMES GARRITY NO. 23452 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

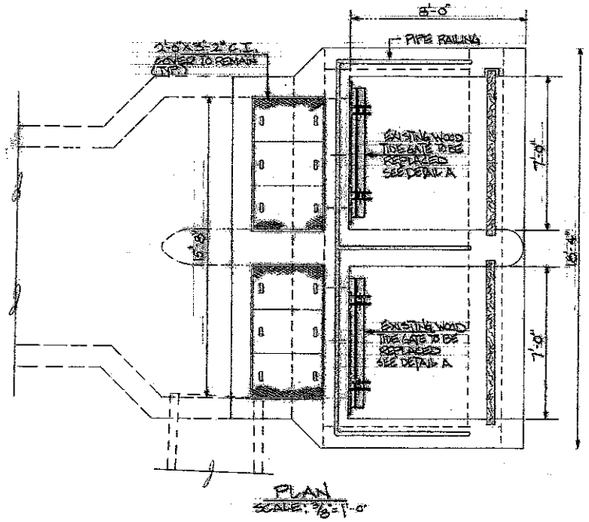
MASSACHUSETTS PORT AUTHORITY
MPA NO. 1.403

BOSTON – LOGAN INTERNATIONAL AIRPORT
1987-88 AIRFIELD IMPROVEMENTS

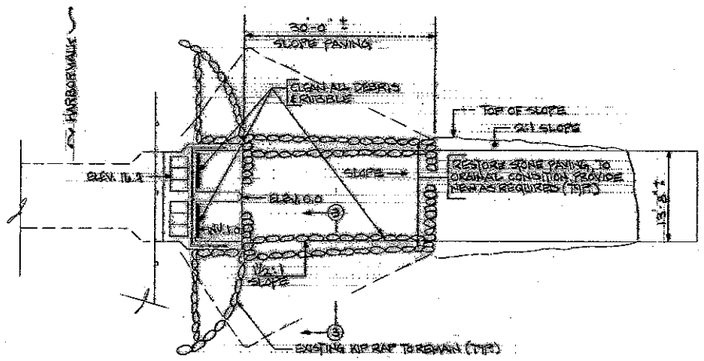
**INFIELD DRAINAGE IMPROVEMENTS DETAILS**

EDWARDS AND KELCEY, INC.

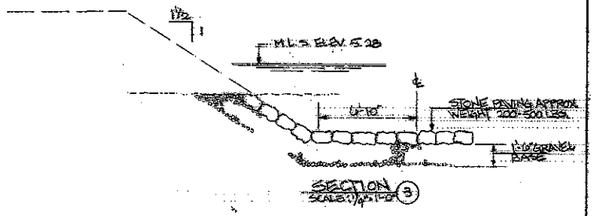
| | | | |
|---|---|---|---|
| DESIGNED PPBS DATE 7/87 | TRACED ____ DATE ____ | | |
| DRAWN W.A. DATE 7/87 | CHECKED K.G. DATE 7/87 | | |
| CONTRACT NO. MPA 1.403 | DRAWING NO. 87-3030-24 | SCALE AS SHOWN SHEET 24 OF 29 | |

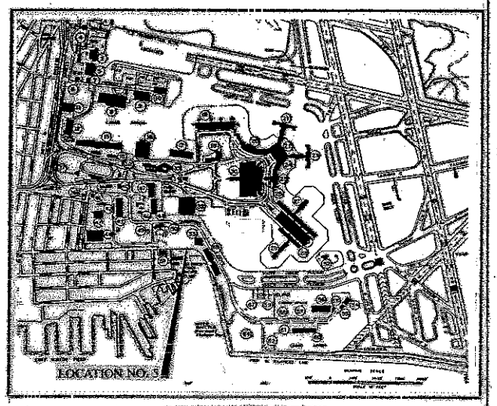

8'-0"
PIPE RAILING
2'-6"x5'-2" C.I. ARCH TO REMAIN (TYP.)
EXISTING WOOD TIDE GATE TO BE REMOVED SEE DETAIL A
7'-0"
16'-4"
EXISTING WOOD TIDE GATE TO BE REMOVED SEE DETAIL A
7'-0"

PLAN
SCALE: 3/8"=1'-0"

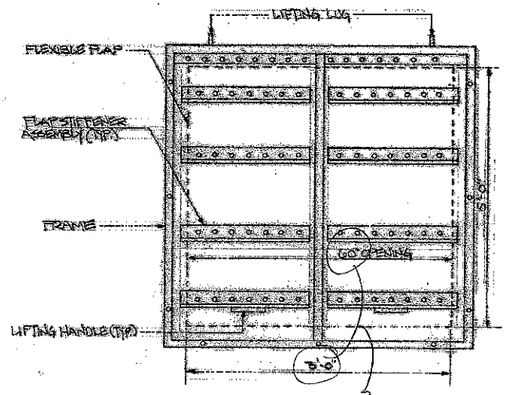



PLAN
SCALE: 1"=10'-0"

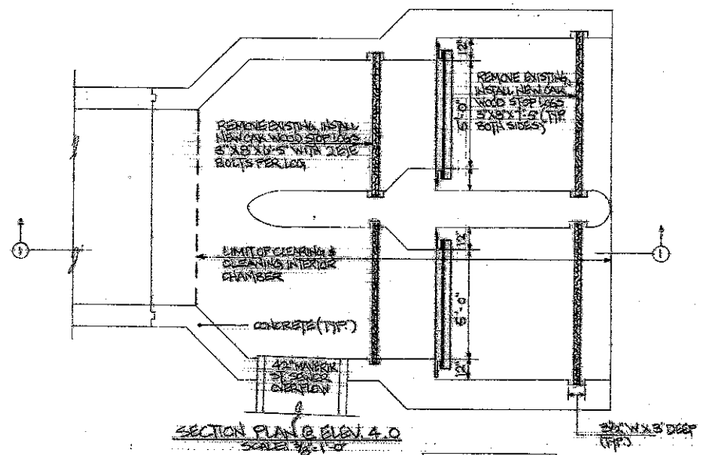


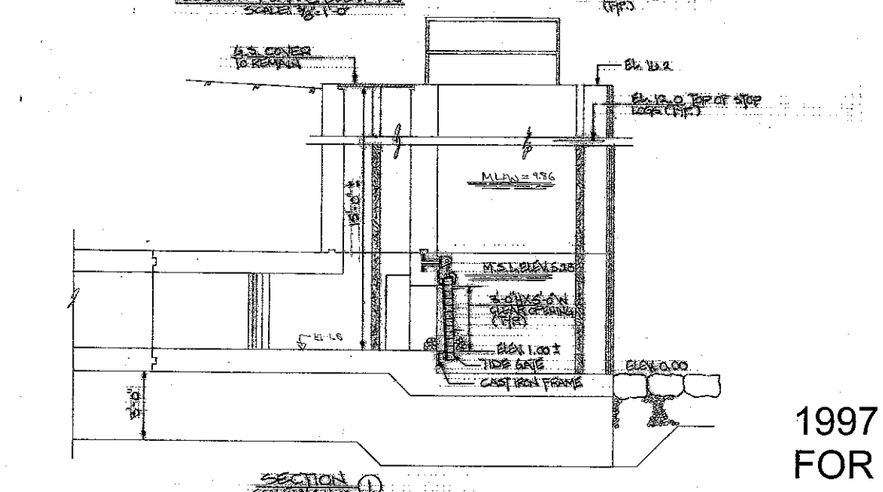



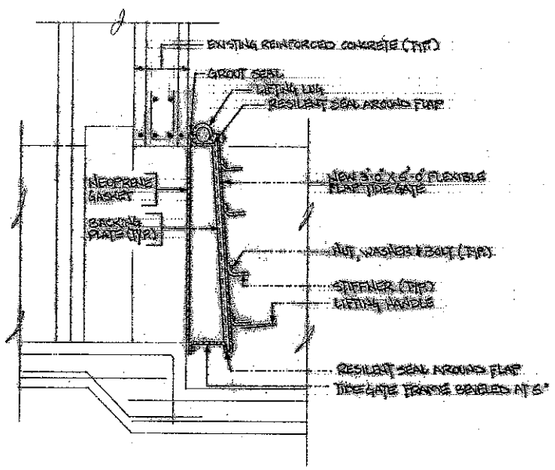

LOCATION PLAN




NEW 3'-10" X 5'-10" FLEXIBLE FLAP TIDEGATE DETAIL
SCALE: NONE


REMOVE EXISTING, INSTALL NEW OAK WOOD STOP LOGS 5"X8"X 1'-5" (TYP BOTH SIDES)
REMOVE EXISTING, INSTALL NEW OAK WOOD STOP LOGS 5"X8"X 5' WITH 2 5/8" BOLTS PER LOG
LIMIT OF CLEANING & COATING INTERIOR CHAMBER
CONCRETE (TYP.)
42" MANHOLE FRAME & COVER (TYP.)
8'-0"
1'-0"
2'-6"
SECTION PLAN @ ELEV. 4.0
SCALE: 3/8"=1'-0"




DETAIL - A
SCALE: NONE

1997 AS-BUILT PLAN
FOR INFORMATION ONLY

NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CLEAR & CLEAN ALL CHAMBERS FROM THE INTERIOR STOP LOGS TO THE EXTERIOR OF THE STRUCTURE REMOVE & REINSTALL ALL STOP LOGS TO PERFORM THIS OPERATION.
2. REFER TO SHEET NO. 1 OF 3 FOR GENERAL NOTES.

| REV. NO. | DATE | DESCRIPTION | MADE BY | CHK. BY | APPD. BY |
|---|---|---|---|---|---|
| | | | | | |

**MASSACHUSETTS PORT AUTHORITY**
**BOSTON, MASSACHUSETTS**

WAVERLY STREET OUTFALL
LOGAN INTERNATIONAL AIRPORT
EAST BOSTON, MASSACHUSETTS

**LOCATION NO' 5**
**REPLACEMENT OF TIDE GATES**

CAPITAL PROGRAMS DEPARTMENT
10 PARK PLAZA, BOSTON, MASS. 02116-3971

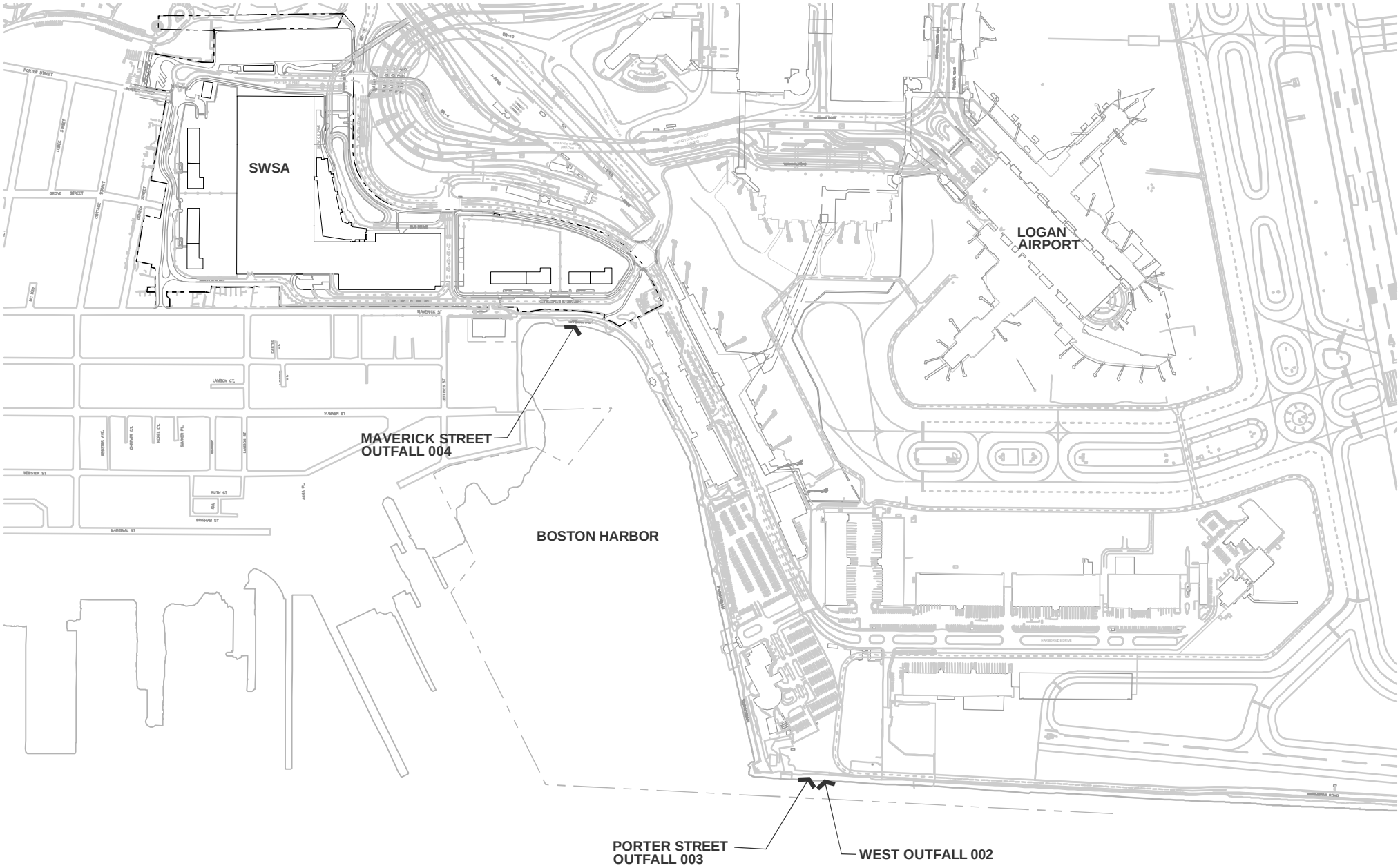
| DESIGNED BY: RICOT | CK. CHKD. BY: KENJ / K. JOHNSON | MPA FILE NO. |
|---|---|---|
| DR. BY: PETE | | |
| SCALE: AS NOTED | APPROVED BY: C.C. | DATE: FEB. 1997 | PLAN NO. C-2 |

CONTRACT NO. MPA 1.684B SHEET NO. 2 OF 3

# Attachment 3
# Standard 2 – Pre/Post Drainage Calculations

■

- Figure 5.2 Stormwater and Combined Sewer Overflow Outfalls
- Table 3 TR20 / TR55 Calculations Summary Sheet
- Table 4 Rational Method Calculations Summary Sheet




0 400 800 1600 3200

graphic scale in feet

N

Figure 5.2

Stormwater and Combined Sewer Overflow Outfalls

massport

Southwest Service Area Redevelopment Program

Logan International Airport
East Boston, Massachusetts

PGAL | PB
planning collaborative

## Table 3 - CONRAC Peak Flow Hydrologic Comparison

**TR55 : Pre-Development versus Post-Development**

**Comparison of using HydroCAD**

### PEAK PRE-DEVELOPMENT FLOWS

| | 2-YEAR | 10-YEAR | 25-YEAR | 100-YEAR |
|---|---|---|---|---|
| **Maverick Street Outfall** | 112.53 | 165.45 | 199.22 | 240.33 |
| **Porter Street CSO** | 37.08 | 54.05 | 64.90 | 78.12 |
| **Maverick Street CSO** | 12.87 | 18.63 | 22.32 | 26.82 |
| **West Outfall** | 4.74 | 7.11 | 8.62 | 10.46 |
| | | | | |
| **PEAK SITE FLOW** | **167.22** | **245.24** | **295.06** | **355.73** |
| | | | | |
| **Maverick St. Outfall, Maverick St. CSO, & West Outfall Combined Flows** | ***130.14*** | ***191.19*** | ***230.16*** | ***277.61*** |

### PEAK POST-DEVELOPMENT FLOWS

| | 2-YEAR | 10-YEAR | 25-YEAR | 100-YEAR |
|---|---|---|---|---|
| **Maverick Street Outfall** | 132.16 | 196.25 | 237.09 | 286.75 |
| **Porter Street CSO** | 28.77 | 43.70 | 53.20 | 64.74 |
| | | | | |
| **PEAK SITE FLOW** | **160.93** | **239.95** | **290.29** | **351.49** |

# TABLE 4: RATIONAL METHOD CLOSED DRAINAGE SYSTEM CALCULATIONS
## 10-YEAR FREQUENCY
## Parsons Brinckerhoff

Project: CONRAC
Proj. #: 18977
Date: February 16, 2009
By: JF
Ckd by:

Notes: n= .13 (CONC pipe)
(c) varies per Area
(Tc) =5 Minutes

### PREDEVELOPMENT CONRAC OUTFALL CHECK

See Appendix F for C factor table, CN Table, and IDF Curve for Boston, MA

| Line | | Length | Area | Area | Runoff | CA | SUM | Time of | Rainfall | Req. Cap. | Pipe | Slope | Flow Full | | Design Vel. | Rim | Inv. Elevations (ft) | | | Pipe Cover | Time in |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | (ft) | (sf) | (acres) | C | | CA | Concen. | I (in./hr.) | Qd (cfs) | (in) | (ft/ft) | Qf (cfs) | Vf (fps) | Vd (fps) | Elev.(ft) | Upper | Lower | Q/Qf | (ft) | Pipe (min) |
| | | | | | | | | | | | | | | | | | | | | | |
| MAVERICK STREET OUTFALL AREA | | | | 36.20 | 0.90 | 32.58 | 32.58 | 5.00 | 5.40 | 175.93 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| PORTER ST CSO-OUTFALL AREA | | | | 11.70 | 0.93 | 10.88 | 10.88 | 5.00 | 5.40 | 58.76 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| MAVERICK STREET CSO AREA | | | | 4.00 | 0.94 | 3.76 | 3.76 | 5.00 | 5.40 | 20.30 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| WEST OUTFALL | | | | 1.60 | 0.85 | 1.36 | 1.36 | 5.00 | 5.40 | 7.34 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| **TOTAL SITE FLOW** | | | | | | | | | | **262.34** | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

### POST-DEVELOPMENT CONRAC OUTFALL CHECK

| Line | | Length | Area | Area | Runoff | CA | SUM | Time of | Rainfall | Req. Cap. | Pipe | Slope | Flow Full | | Design Vel. | Rim | Inv. Elevations (ft) | | | Pipe Cover | Time in |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | (ft) | (sf) | (acres) | C | | CA | Concen. | I (in./hr.) | Qd (cfs) | (in) | (ft/ft) | Qf (cfs) | Vf (fps) | Vd (fps) | Elev.(ft) | Upper | Lower | Q/Qf | (ft) | Pipe (min) |
| | | | | | | | | | | | | | | | | | | | | | |
| PORTER ST CSO-OUTFALL AREA | | | | 10.00 | 0.82 | 8.20 | 8.20 | 5.00 | 5.40 | 44.28 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| MAVERICK STREET OUTFALL AREA | | | | 43.50 | 0.87 | 37.85 | 37.85 | 5.00 | 5.40 | 204.36 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| **TOTAL SITE FLOW** | | | | | | | | | | **248.64** | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

Notes:
1.) Pre & Post Development calculations used Boston IDF curve for rainfall intensity based on a calculated duration for the 10-Year storm.
2.) Post-Development Maverick Street Outfall combines Pre-Development Maverick St. Outfall, Maverick St. CSO, and West Outfall

# Attachment 4
# Stormwater Management Standards

■

- TSS Removal Calculations
- Standard #4 – TSS Removal
- Standard #5 – Land Uses with Higher Potential Pollutant Loads
- Standard #6 – Shellfish Growing Area

**TSS Removal For : Boston-Logan International Airport**
**Southwest Service Area**

Table 6

| Best Management Practice (BMP) | TSS Removal Rate | Starting TSS Load(1) | Amount Removed | Remaining Load |
|---|---|---|---|---|
| Street Sweeping | 5% | 100% | 5% | 95% |
| | | | | |
| Deep Sump Catch Basin | 25% | 95% | 24% | 71% |
| | | | | |
| Oil Grit Separator | 25% | 71% | 18% | 53% |
| | | | | |
| Stormcepter STC 1800 | 62% | 53% | 33% | 20% |
| | | | | |
| | | **Total TSS Removal =** | **80%** | |

**(Additional BMPs)***

| | | | | |
|---|---|---|---|---|
| Treebox Filters | 80% | | | |
| Porous Pavement | 80% | | | |
| Proprietary Media Filters | 80% | | | |
| Subsurface Infiltration Structure | 80% | | | |
| Vegetated Filter Strips | 10% | | | |
| Proprietary Media Filters | 80% | | | |

* TSS removal rates are as per the MA Stormwater Handbook

**Standard #4 – TSS Removal**

| TSS Removal Efficiencies for Best Management Practices | | | |
|---|---|---|---|
| **Best Management Practice (BMP)** | **TSS Removal Efficiency** | **Applicable for SWSA (Y/N)** | **Comments** |
| **Non-Structural Pretreatment BMPs** | | | |
| **Street Sweeping** | 5% | Y | Feasible and being considered |
| **Structural Pretreatment BMPs** | | | |
| **Deep Sump Catch Basins** | 25% for pretreatment | Y | Feasible and being considered for all catch basins throughout site |
| **Oil Grit Separator** | 25% for pretreatment | Y | Feasible and being considered throughout site |
| **Proprietary Separators** | 50-80% for pretreatment (Stormcenter) | Y | Feasible and being considered throughout the site |
| **Sediment Forebays** | 25% for pretreatment | N | Unacceptable due to standing water and size based on amount of impervious area and site constraints |
| **Vegetated filter strips** | 10% if at least 25 feet wide, 45% if at least 50 feet wide | Y | Feasible and being considered |
| **Treatment BMPs** | | | |
| **Bioretention Areas including rain gardens** | 90% with pretreatment | N | Unacceptable due to standing water and size constraints |
| **Constructed Stormwater Wetlands** | 80% with a sediment forebay | N | Unacceptable due to standing water and size constraints |
| **Extended Dry Detention Basins** | 50% with a sediment forebay | N | Unacceptable due to size constraints |
| **Gravel Wetlands** | 80% with a sediment forebay | N | Unacceptable due to standing water |
| **Proprietary Media Filters** | | Y | "Dry" media filters are feasible and being considered |
| **Sand/Organic Filters** | 80% with sediment forebay | N | Unacceptable due to size of pretreatment requirements |
| **Treebox filter** | 80% with adequate pretreatment | Y | Feasible and removes 80% TSS |
| **Wet Basins** | 80% with sediment forebay | N | Unacceptable due to standing water |
| **Conveyance** | | | |
| **Drainage Channels** | For conveyance only. No TSS removal credit | | |
| **Grass Channels (formerly biofilter swales)** | 50% if combined with sediment forebay or equivalent | N | Unacceptable due to standing water and size constraints |
| **Water Quality Swale – wet & dry** | 70% provided it is combined with sediment forebay or equivalent | N | Unacceptable due to standing water and size constraints |
| **Infiltration BMPs** | | | |
| **Dry Wells** | 80% for runoff from non-metal roofs | N | Unacceptable for LUHHPL |
| **Infiltration Basins & Infiltration Trenches** | 80% provided it is combined with adequate pretreatment (sediment forebay or vegetated filter strip, grass channel, water quality swale) prior to infiltration | N | Unacceptable due to standing water and site soil conditions |
| **Leaching Catch Basins** | 80% provided a deep sump catch basing is used for pretreatment | N | Unacceptable due to site soil conditions |
| **Subsurface Structure** | 80% provided they are combined with one or more pretreatment BMPs prior to infiltration | Y | Feasible and being considered dependant on site soil conditions |
| **Other BMPs** | | | |
| **Dry Detention Basins** | No TSS Removal Credit. | N | Unacceptable due to location |
| **Green Roofs** | No TSS Removal Credit. | Y | Feasible and being considered |
| **Porous Pavement** | 80% if designed to prevent runon | Y | Feasible for sidewalks only and dependant on site soil conditions |
| **Rain Barrels and Cisterns** | No TSS Removal Credit. | Y | Feasible and being considered for CSC roof runoff |

## Standard #5 – Land Uses with Higher Potential Pollutant Loads

| Best Management Practice (BMP) | Applicable for SWSA (Y/N) | Comments |
|---|---|---|
| **Pretreatment** | | |
| Deep Sump Catch Basin | Y | Feasible and being considered for all catch basins throughout site |
| Oil Grit Separator | Y | Feasible and being considered throughout site |
| Proprietary Separators | Y | Feasible and being considered throughout the site |
| Sediment Forebays | N | Unacceptable due to standing water and size based on amount of impervious area and site constraints |
| Vegetated Filter Strip (*must be lined*) | Y | Feasible and being considered |
| **Treatment** | | |
| Filtering Bioretention Areas including rain gardens | N | Unacceptable due to standing water and size constraints |
| Constructed Stormwater Wetlands | N | Unacceptable due to standing water and size constraints |
| Dry Water Quality Swales | Y | |
| Extended Dry Detention Basins | N | Unacceptable due to size constraints |
| Gravel Wetlands | N | Unacceptable due to standing water |
| Proprietary Media Filter. (*Does not include catch basin inserts)* | Y | "Dry" media filters are feasible and being considered |
| Sand /Organic Filters | N | Unacceptable due to size of pretreatment requirements |
| Wet Basins | N | Unacceptable due to standing water |
| **Conveyance** | | |
| Drainage Channels | | |
| Grass Channels (formerly biofilter swales) | N | Unacceptable due to standing water and size constraints |
| Water Quality Swale – wet & dry | N | Unacceptable due to standing water and size constraints |
| **Infiltration** | | |
| Exfiltrating Bioretention Areas including rain garden | N | |
| Infiltration Basins | N | Unacceptable due to standing water and site soil conditions |
| Infiltrations Trenches | N | |
| Leaching Catch Basins | N | Unacceptable due to site soil conditions |
| Subsurface Structures | Y | Feasible and being considered dependant on site soil conditions |

## Standard #6 – Shellfish Growing Area

| Best Management Practice (BMP) | Applicable for SWSA (Y/N) | Comments |
|---|---|---|
| **Pretreatment:** | | |
| Deep Sump Catch Basin | Y | Feasible and being considered for all catch basins throughout site |
| Oil Grit Separators | Y | Feasible and being considered throughout site |
| Proprietary Separators | Y | Feasible and being considered throughout the site |
| Sediment Forebays | N | Unacceptable due to standing water and size based on amount of imp. and site constraints |
| Vegetated Filter Strips | Y | Feasible and being considered |
| **Treatment:** | | |
| Filtering Bioretention Areas including rain gardens | N | Unacceptable due to standing water and size constraints |
| Constructed Stormwater Wetlands *(highly recommended)* | N | Unacceptable due to standing water and size constraints |
| Gravel Wetlands | N | |
| Proprietary Filter Media | N | Unacceptable due to size constraints |
| Sand /Organic Filters | N | Unacceptable due to standing water |
| Wet Basins | Y | "Dry" media filters are feasible and being considered |
| **Conveyance** | | |
| Drainage Channels | | |
| Grass Channels (formerly biofilter swales) | N | Unacceptable due to standing water and size constraints |
| Water Quality Swale – wet & dry | N | Unacceptable due to standing water and size constraints |
| **Infiltration:** | | |
| Exfiltrating Bioretention Areas including rain gardens | N | |
| Dry Wells | N | Unacceptable for LUHHPL |
| Infiltration Basins *(highly recommended)* | N | Unacceptable due to standing water and site soil conditions |
| Infiltration Trenches *(highly recommended)* | N | |
| Subsurface Structures | Y | Feasible and being considered dependant on site soil conditions |

PREPARED BY

Vanasse Hangen Brustlin, Inc.
101 Walnut Street
Watertown, MA 02471

IN ASSOCIATION WITH:

PGAL/PB Planning Collaborative – Lead Designer/Civil/Structural/MEP/Geotechnical Engineer

Fennick McCredie Architecture – Design Architect

Vanasse & Associates – Transportation Consultant

Harris Miller Miller & Hanson, Inc. – Noise Consultant

KB Environmental, Inc. – Air Quality Consultant

Brown Richardson & Rowe, Inc. – Landscape Architect

Goody Clancy – Urban Planning Consultant

BVM Engineering, Inc. – Sustainable Design/LEED® Consultant